1934.

CITY AND COUNTY OF BRISTOL

HEALTH COMMITTEE

ANNUAL REPORT

OF THE

MEDICAL OFFICER OF HEALTH

R. H. PARRY, M.D. B.S M.R.C.P. (Lond.), D.P.H.

CONSTITUTION OF COMMITTEES.

The Lord Mayor :
H. J. MAGGS, Esq., J.P.

Health Committee.

Chairman :
Alderman H. J. Maggs, J.P.

Vice-Chairman :
Alderman J. E. Jones, J.P.

Alderman J. J. Milton, J.P.
Councillor E. W. Andrews
,, L. H. Bateman
,, C. G. T. Bennett
,, Mrs. C. M. Keel
,, W. H. Byrt, J.P.
,, E. T. Cozens, J.P.
,, H. S. Evans
,, T. Jefferis
,, Miss L. Meade-King
,, J. Owen
,, V. J. Robinson
,, Sir L. A. Goodenough Taylor
,, T. J. Wise

Education Committee.

Chairman :
Councillor Walter Bryant, J.P.

Vice-Chairman :
Alderman W. H. Ackland, J.P.

Hygiene Sub-Committee.

Chairman :
M. Giles, Esq., J.P.

Rev. W. Dillon, B.A.
Mrs. M. Finn
Councillor E. T. Pugh
,, A. L. H. Smith
W. R. Straker, Esq., M.A., J P.
Councillor T. H. J. Underdown, Esq., M.A., J.P.

The full *Health Committee* is also the Health (Accounts and Contracts) Committee and the Maternity and Child Welfare Committee.

In addition Joint Committees for co-ordinating the health and medical services of the Council have been appointed by the following Committees :—

Health Committee
Education Committee
Public Assistance Committee
} *Chairman* : Councillor Walter Bryant, J.P.
Vice-Chairman : Alderman H. J. Maggs, J.P.

Housing Committee.

Chairman :
Alderman J. E. Jones, J.P.

Vice-Chairman :
Alderman F. Sheppard, J.P.

Alderman F. F. Clothier, J.P.
Councillor C. S. Baston
,, C. R. Gill
,, R. Ashley Hall
,, A. G. Heard
,, T. Jefferis
,, H. R. Lee
,, R. F. Lyne
,, G. A. Martin
,, A. L. H. Smith

Mental Deficiency Act Committee.

Chairman :
Alderman F. Sheppard, J.P.

Councillor W. H. Byrt, J.P.
,, R. C. Davies
,, A. F. Moon, J.P.
,, W. H. Nott
,, Mrs. E. A. Webb, J.P.
,, F. A. Webber
,, W. T. Wright
Mr. F. W. Phillips
Mrs. Nunn
Mrs. Pullin

The Town Clerk : Josiah Green, Esq.

PUBLIC HEALTH STAFF.

Medical Officer of Health (City, Port and Schools) :
R. H. Parry, M.D., B.S., M.R.C.P. (Lond.), D.P.H.

Deputy Medical Officer of Health :
A. G. Morison, M.A., M.D., D.P.H.

A.—CLINICS, DISPENSARIES, ETC.

Maternity and child welfare.

Chief assistant	Marguerite G. Hughes, M.B., Ch.B.
	Greta Hartley, M.D., M.M.
	Alison A. Craig, M.B., B.S., D.P.H.
	Doris M. Pullen, M.B., Ch.B.**
	Mildred B. Bruce Perry, M.B., Ch.B.**
	H. L. Shepherd, Ch.M., M.B.**
	Lily A. Baker, B.A., M.B., Ch.B., F.R.C.S.I.**
Principal sister	Miss L. Elkins*
Inspector of midwives and nursing homes	Miss W. M. Richards
Superintendent health visitor	Miss I. M. Ralph.
	24 health visitors.
	6 probationer health visitors.

Tuberculosis.

Tuberculosis officer	C. J. Campbell Faill, F.R.C.P. Ed.
	J. Scott Currie, M.B., Ch.B.
	3 dispensary nurses.
	1 X-ray operator.
	1 dispenser**

Venereal disease.

Medical director	S. Hardy Kingston, M.B., Ch.B., D.P.H.**
	4 assistant medical officers**

School medical service—(under Education Committee).

Chief assistant	A. A. Dalby, *M.C.*, M.R.C.S., L.R.C.P.
	A. F. Alford, M.B., Ch.B.
	M. A. O'Donohoe, M.B., Ch.B., Ba.O.
	A. R. Forbes, M.B., Ch.B., D.P.H.
	A. Dick, M.B., Ch.B., D.P.H.
	R. A. Read, M.B., Ch.B., D.P.H.
	S. B. Green, M.B., D.P.H.,**
	Five dental surgeons (1*)
Principal sister	Miss Elkins*
	18 school nurses.
	3 masseuses and remedial gymnasts.
	5 dental assistants.
	11 clerks.

B.—DEPARTMENT OF PREVENTIVE MEDICINE, UNIVERSITY OF BRISTOL.**

Professor	R. H. Parry, M.D., B.S., M.R.C.P., D.P.H
Director of preventive medicine laboratory	I. Walker Hall, M.D., Ch.B.
Senior pathological officer ...	J. D. A. Gray, M.B., Ch.B., B.Sc., F.R.C.P.
Junior pathologist	Doris M. Stone, M.D., D.P.H.
Public analyst	F. E. Needs, F.I.C.
Senior assistant	F. Beach, M.A., B.Sc., F.I.C
Junior assistant	I. Dembery, B.Sc., A.I.C.
Temporary assistant ...	Annie E. R. Dear, B.Sc.

PUBLIC HEALTH STAFF

(continued).

C.—HOSPITALS, SANATORIA AND INSTITUTIONS.

Specialist staff.

Consultant physicians :	
General	Emeritus Professor J. A. Nixon, *C.M.G.*, B.A., M.D., F.R.C.P. (Lond.)
	Professor C. Bruce Perry, M.D., M.R.C.P. (Lond.)
Children's diseases ...	O. C. M. Davis, M.D., D.Sc., M.R.C.P.
Consultant surgeons :	
Orthopaedic ...	G. R. Girdlestone, M.A., F.R.C.S. Eng.
	Emeritus Professor E. W. Hey Groves, M.D., D.Sc., M.S., F.R.C.S. Eng.
Surgeons—General	A. W. Adams, M.B., M.S., F.R.C.S.
Orthopaedic	H. Chitty, M.S., F.R.C.S. Eng.
	K. H. Pridie, M.B., B.S., F.R.C.S. Eng.
Ear, nose and throat diseases	G. R. Scarff, M.B., F.R.C.S., Eng.
Gynaecology & obstetrics ...	H. J. Drew Smythe, *M.C.*, M.D., M.S., F.R.C.S., F.C.O.G., M.M.S.A.
Ophthalmology	R. R. Garden, M.A., M.B., Ch.B., D.O.M.S.
Skin diseases	N. Burgess, M.A., M.D., B.C., M.R.C.P.
Radiology	T. B. Wansbrough, M.B., Ch.B.
Dental surgery	G. F. Fawn, L.D.S., B.D.S., M.R.C.S., L.R.C.P.

Ham Green Hospital and Sanatorium.

Medical superintendent ...	B. A. I. Peters, B.A., M.D., D.P.H.
Senior assistant medical officer	B. J. Boulton, M.B., Ch.B.
	T. J. Davies, B.Sc., M.B., B.S.
	Iris M. Cullum, M.B., B.S.
Matron	Miss K. M. Baldwin

Novers Hill Hospital.

Home sister	Miss E. E. Lane.
Nursing superintendent ...	Miss E. B. Wilcox.

Southmead Hospital.

Medical superintendent ...	P. Phillips, M.Sc., M.D., Ch.B.
Senior assistant medical officer	N. L. Price, M.D., Ch.B.
	D. T. Davies, M.R.C.S., L.R.C.P.
	Crissie Short, M.B., Ch.B., D.P.H.
Matron	Miss M. E. Price
Steward	F. D. Sainsbury, R.S.I.

Frenchay Park Sanatorium and Orthopaedic Hospital.

Resident medical officer ...	Vida Stark, M.B., Ch.B., D.P.H.
Matron	Miss L. Allen.
Head teacher	Miss M. E. F. Morgan.

Babies Home, Downend.

Medical officer	G. Hartley, M.D., M.M.*
Matron	Miss M. Sanders.

Administered by Public Assistance Committee.

Stapleton Institution.

Medical superintendent ...	S. Datta, M.D.

PUBLIC HEALTH STAFF

(continued).

Eastville Institution.

Medical superintendent ... J. A. L. Roberts, M.B., B.S.

Administered by Mental Deficiency Committee.

Hortham Colony.

Medical superintendent ... W. Wyatt, M.B., Ch.B., D.P.M., L.D.S., R.C.S.

D.—OTHER MEDICAL STAFF.

*Mental deficiency certifying officers.***

Dr. A. A. Dalby
Dr. A. F. Alford } under Education Act, 1921.

Dr. D. Hall Beatson, under Mental Deficiency Act, 1913.

*Public vaccinators.***

Dr. E. V. Foss	Dr. E. U. Bartholomew
Dr. H. Hope Scott	Dr. I. Williams
Dr. J. A. L. Roberts	Dr. G. S. Mundy
Dr. H. J. Newlands	Dr. S. B. Green

*District medical officers under poor law acts.***

Dr. J. M. Evans	Dr. S. B. Green
Dr. D. Hall Beatson	Dr. F. W. Browne
Dr. J. A. L. Roberts	Dr. G. S. Mundy
Dr. E. V. Foss	Dr. W. I. Paramore

E.—OTHER PUBLIC HEALTH STAFF.

Sanitation and housing.

Chief sanitary inspector ... J. A. Robinson, F.S.I.A.
Superintendent inspector ... T. J. Cleal.
16 district inspectors.
4 (1 temp.) housing inspectors.
4 (3 temp.) assistant inspectors.
4 inspectors' labourers.
4 ratcatchers.

Food inspection.

Veterinary Surgeon ... G. E. Henson, M.R.C.V.S.**
3 meat inspectors.
4 food, drugs and dairies inspectors.

Mental deficiency acts.

Supervising officer ... ... W. E. Price.
2 domiciliary visitors.
10 occupation centre instructors, etc.

Clerical staff.

Chief clerk ... ... C. W. M. Vincent
Deputy do. ... ... J. G. Watson
33 clerks.
5 temporary clerks and typists.

Miscellaneous services.

Women's welfare worker ... Mrs. N. H. Stott.*
Vaccination officers ... 2
Home nurses for infectious disease 3
Ambulance and disinfecting service 14
Messenger, telephone operator and caretakers 17 (10**)
Municipal lodging house ... 10

* joint appointment. ** part-time appointment.

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CITY AND COUNTY OF BRISTOL.

ANNUAL REPORT, 1934.

My Lord Mayor, Ladies and Gentlemen,

I have the honour to submit my annual report on the health and sanitary circumstances of the city for the year 1934.

By the following observations I desire to draw special attention to certain matters, further details concerning which are found in the body of the report.

Coordination of medical services.

Much valuable work has been done during the year by the committee appointed to coordinate these services under the chairmanship of Councillor Walter Bryant, J.P., chairman of the Education Committee, with Alderman H. J. Maggs, J.P., as vice-chairman. Certain changes for closer co-operation of the sections of the medical services are being considered. These will be discussed in detail in my next report.

Statistics (p. 21).

The population as estimated by the Registrar General for mid-year 1934 is 410,500.

The birth rate increased slightly last year and the death rate fell, with the result that the natural increase in the population was approximately double that for 1933.

On the whole the health statistics for 1934 are most encouraging. This is gratifying after a disappointing result during 1933. The following figures indicate the improvement :—

1932	1933		1934
2.53	4.44	Maternal mortality	4.19
51.4	54.9	Infant mortality	45.9
26.05	30.4	Neo-natal mortality ...	27.7
37.9	44.4	Stillbirths	43.1
.83	.95	Tuberculosis death rate ...	.86

From these figures it will be seen that the results do not attain the excellent standard of 1932 but are a distinct improvement upon those for 1933. More particularly is attention drawn to the lowest infant mortality rate ever attained by our city.

Preventive medicine department (p. 134).

A very interesting report by Professor Walker Hall on the work of the preventive medicine department is included. I desire to draw particular attention to the following points :—

(1) The high percentage of pasteurised milks which did not comply with the present limits of bacterial contents (40.7 per cent.) We are thoroughly dissatisfied with the handling of raw milk, and Professor Walker Hall and his colleagues in a recent publication have shown quite clearly the need for a cleaner product to begin with, and less delay always between the hour of collection and that of pasteurisation.

(2) Since the establishment of the preventive medicine department, the number of milk samples examined for tuberculous contents has been increased from 50 in 1930 to 485 in 1934. The percentage showing the presence of the organisms was 5.15 per cent. In addition 10 per cent. of milks showed the presence of streptococci and other organisms.

(3) The remarks of Professor Walker Hall concerning ice creams are very instructive. They show again that merely freezing foodstuffs does not destroy all possible cause of disease and that ice cream may be an important vehicle for the transfer of disease.

The scheme for the examination of diphtheria swabs referred to by Professor Walker Hall in my annual report last year, has given excellent results. By the direct examination of primary swabs, 88 cases were recognised at once with great benefit to the patients (vide p. 136).

Once again I refer to the main objects of the establishment of the preventive medicine department :—

(1) To make laboratory facilities available to every medical practitioner in the city, whose patients cannot afford the assistance of a private pathology specialist.

(2) To obtain rapid diagnosis especially in cases of infectious disease. In diphtheria in particular, is rapid diagnosis necessary. There has been a tendency to rely far too much on the result of swab examination. It cannot be too forcibly impressed that the diagnosis of diphtheria must always be on clinical grounds. By the direct examination of swabs, it has been possible to accelerate greatly the help given by the laboratory to the medical practitioners in attendance with the resulting vast improvement in the results of treatment.

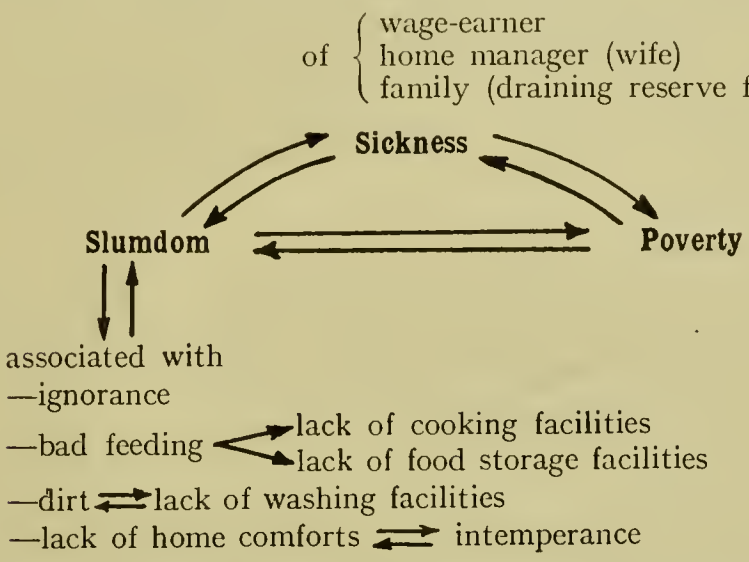
(3) To assist the public health department in the control and supervision of the food supplies of the citizens.

It can be stated without hesitation that twelve months' experience has proved conclusively the importance of this department in the public health services of the city.

I cannot but mention the enormous debt that we owe to Professor Walker Hall for the part he has played in organising and developing this department.

Preventive medicine in practice.

Sickness, poverty and slumdom are very closely related. Many times over has it been proved that sickness can be a definite cause of destitution. In these facts we have a vicious circle as follows :—



In our own country this ring has defied all interference for centuries. In part this may be due to half-hearted or weak attacks, but history tells us candidly that the efforts have failed because attacks were not concentrated on "all parts of the front." The attack on the slums must be accompanied by a supply of homes at a cost that can be afforded by the people concerned. This is occurring in accordance with plan. Without doubt the least organised is the attack against the "sickness front." The general practitioner forms the advance guard, but he is unorganised and unaided. National health insurance, it is true, gives some assistance for the home treatment of wage *earners* but they only form a small proportion of the population. On the whole, assistance for diagnosis for the general practitioner by modern scientific methods, including laboratory facilities, is most unsatisfactory. One cannot imagine a successful national scheme to fight disease which is not based upon sound planning, sound methods, and upon all modern scientific means of diagnosis. The demand upon the family purse, which is normally greater during sickness, is still greater through the need for payment to the medical attendant. There is no profession which distributes charity so liberally as the medical profession, but it is unfair to expect under modern conditions, for the working class family, on the one hand, to be able either to pay fees commensurate with the services required or to accept charity, or, on the other hand, for the medical practitioner to distribute charity in the form of his own time and labour at his own expense.

If this vicious circle is to be broken for ever, a scheme must be devised and developed to bring preventive medicine, including all the aids to early diagnosis of disease, within the reach of every person.

General provision of health services (p. 33).

An account is given of the buildings erected (72 beds) at Ham Green Sanatorium to replace temporary wooden structures, and of a new theatre block at Southmead Hospital.

A whole-time chair of medicine was established by the University during the year and Professor Bruce Perry was appointed to the post this year. The holder of this post is associated, by arrangement, with the municipal hospital where he is permitted to supervise patients under the general direction of the resident superintendent. A resident medical officer is delegated to act as his house physician.

Other administrative matters relative to staff, hospital stores and the standardisation of drugs, dressings, etc., are discussed in this chapter.

Local Government Act, 1929.

My report for 1930 detailed the services transferred under the provisions of the Local Government Act 1929 and contained details of the Council's administrative scheme made under the Act.

The effect of the declaration in clause 2 of the scheme has been that persons who are settled in or inhabitants of the city who are assisted under a declared service become a permanent charge on the city. Adjacent areas have not declared services under the Local Government Act 1929, and in view of the situation of Bristol the joint sub-committee of the Health and Public Assistance Committees considered that the declaration in the administrative scheme should be amended so as to limit the application of the declared services to persons settled in or irremovable from Bristol. The effect of such an amendment would be to secure to the Council the rights which they had prior to the coming into operation of the scheme of removing persons not settled in or irremovable from Bristol, or recovering the cost of their maintenance from the authority responsible. The Council on the 8th May, 1934, approved of the amendment of the administrative scheme accordingly, which was subsequently confirmed by the Minister of Health.

The Council also approved of a recommendation from the joint sub-committee that the clause of the principal scheme whereby the functions of the Public Assistance Committee in so far as they related to the maintenance of poor children apart from their parents should be discharged by the Health Committee on behalf of and subject to the general direction and control of the Public Assistance Committee, should be revoked, and that the Babies Home be appropriated for the reception of children under the provision of the Maternity and Child Welfare Act 1918 This decision was confirmed by the Minister of Health and came into operation on the 1st October, 1934.

Shop Acts (p. 44)

It has been decided to transfer the duties relative to the above Acts to the Health Committee. This will involve the department in a considerable amount of additional work and expense.

Maternity and Child Welfare (p. 46).

The infant mortality rate last year is the lowest on record.

The following table indicates quite clearly that whereas our skill—both expert and lay—in bringing up infants has improved

considerably, even during the last five years, no progress at all has been made in the supervision and management of confinements. The still-birth rate has increased in the last five years and so has the maternal mortality rate. These two factors are intimately connected.

Year	Maternal mortality rate	Stillbirth rate	Infant mortality rate	Neo-natal rate
1930	3.57	36.9	58.3	30.53
1931	3.15	39.9	50.8	26.7
1932	2.53	37.9	51.4	26.05
1933	4.44	44.4	54.9	30.4
1934	4.19	43.0	45.9	27.7

We seem to be as far as ever from succeeding in overcoming the risks associated with child-birth. Are the powers possessed by local health authorities sufficient for proper supervision of pregnant women? Should the condition be notifiable so as to ensure that every pregnant woman should have proper supervision and treatment? Should such supervision and treatment be entrusted only to specialists in this branch of medicine? These are questions which demand an answer at no distant date.

One of the outstanding events of the year in this section was the appropriation of the babies' part of the Downend Cottage Homes for the purpose of the Maternity and Child Welfare Act. In future these three buildings will be administered as a residential nursery under the maternity and child welfare scheme. All public assistance cases will be admitted as usual, but in addition to these, cases will also be admitted for nutritional disturbance, for observation, and for general supervision and feeding. Already, from our short experience, significant results in the matter of feeding have been obtained. It has often occurred to one that pediatricians and trained nurses very frequently are entirely ignorant of the management of healthy but malnourished children. This work demands special experience. We are looking forward with confidence to the success of this venture by the City Council.

The institution of nursery centres in different parts of the city is under consideration. It may be possible to institute a scheme for the training of nursery nurses in connection with these centres and the appropriated Homes.

Common lodging houses (p. 59).

A report submitted to and accepted by the Health Committee is an attempt to set a standard, in the light of modern conception, for new common lodging houses in the city, and it is hoped gradually to raise the existing ones to this level.

Housing (p. 68).

Census 1931.

Detailed comments concerning Bristol housing census figures are found on page 70. The following points deserve special mention in connection with the above :—

During the last intercensal period, there appeared 2,075 more families in the city than occupied dwellings. This brought the figures of families in excess of dwellings up to 20,776.

It is generally recognised that family ' means ' can and often does play a prominent part in public health. In no branch is it more obvious than in regard to the housing of the family. The poorest families drift into the least desirable dwellings. Undoubtedly, the first step therefore to improve the homes must be to remove all unfit houses. But overcrowding even of fit dwellings is a danger to health. To solve this further problem and to give each family a healthy home there must be an adequate supply of sanitary dwellings which can be hired at a reasonable cost. The housing problem is not solved until this condition is obtained.

Flats.

Much discussion continues regarding the relative merits of flats and houses. In Bristol at least there is neither the need nor the room for flats. What in fact are the arguments in favour in flats in Bristol ?

There is the oft repeated question of ' people being near their work.' There are not many industries in the centre of our city : the industries of Bristol are well distributed throughout the city. The biggest docks are at Avonmouth—7 miles away.

A clearance area in the centre of the city is to be acquired and flats erected thereon. If these families were rehoused in cottages on the new Knowle West estate they would be approximately two miles away from the centre of their present habitation. An analysis has been made of the occupations of the present tenants. Out of 638 employable people—

173 or 27 per cent are unemployed ;
100 or 16 per cent. are pensioners ;
159 or 25 per cent. are lodging-house keepers, hawkers, daily workers or shopkeepers ;
32 or 5 per cent. are sailors or dockers.

One hundred and seventy four or 27 per cent. work within one mile of their present habitation more than half in the direction of the new housing areas and about the same distance from it.

This analysis shows that only about a sixth will find it more convenient from the point of accessibility to work, whereas the rest will be unaffected or to their advantage.

It has been said that by removing the people from their present homes in the slums their established communal life is broken. In the vast majority of cases this is all to the good. On the other hand, it is true that a certain number of people are affected adversely for their public social life—churches, chapels, missions, etc.—must start afresh. Further, their facilities for shopping, etc.,

may not be so efficient and economical. It is true that it does not pay costers and shopkeepers who keep the cheaper types of food, to establish in the new areas, and to that extent the cost of living of the families is affected. It is also true that the appetites of the children have enormously increased because of better health, with definite results on the family purse, when the family has been moved to the housing estates.

The problem of transport although closely related to that of housing is a problem by itself and should not be confused with that of rehousing. To suggest the building of flats and the congregation of people in one centre so as to avoid development of transport services is a great fallacy.

The housing problem is not solved merely with the supply of dwellings. There is need for the provision of such amenities as public halls, and inside as well as outside recreation facilities for these estates. The Council of Christian Churches are taking a prominent lead in Bristol to establish and co-ordinate these activities.

The first consideration in all these matters should be the welfare of those who have to occupy the homes for the greatest number of hours out of the twenty-four. These are the mothers and children, and the latter in particular are worthy of consideration, for they are amenable to all the new influences for good that may be brought to bear and form the future generation of our people.

Tables are included giving a summary of the work undertaken under slum clearance. Briefly, the facts are—

—28 official representations were made during the year involving 570 houses. All these were approved by the City Council and approved by the Ministry of Health with slight modifications.

—101 demolition orders were also made.

—Together these involve 671 houses and a population of 4,119.

Since the Housing Act, 1930 came into operation, houses have been dealt with as follows :—

Year	Areas	Demolition orders	Total no. of houses	Population	Houses repaired
1930 (Aug. to Dec.)	—	7	7	47	135
1931	70	109	179	870	214
1932	107	180	287	1,199	158
1933	357	100	457	2,154	150
1934	570	101	671	4,119	451
Totals	1,104	497	1,601	8,389	1,108

In May 1933, the Council adopted its five-year plan to clear 2,500 houses by clearance area action and 400 by individual demolition orders. Up to the end of 1934, action had been taken

by the Council on these lines in regard to 44 clearance areas (854 houses) and 164 individual houses involving 5,744 people.

Much attention has been paid throughout to the question of repairs and no house has ever been condemned if it were at all possible to repair it at reasonable expense. We consider the matter of housing repair as a most important part of our slum clearance scheme. The total number of houses repaired under the Act following formal and informal notices during 1934 were :

Formal.	Informal.	Total.
224	227	451

The figures regarding repairs to houses for the whole period since August 1930 were :

Formal.	Informal.	Total.
467	641	1,108

Inspection and supervision of food (p. 72).

Special attention has been paid throughout the year to this part of the work of the health department, more particularly in regard to milk, ice-cream and meat. An attempt has been made to set a standard of hygiene for the establishments wherein these food-stuffs may be prepared. This is an essential, for it is so much easier to be dirty and careless amongst dilapidated and unhygienic surroundings.

Prevalence and control of infectious disease (p. 81).

The outstanding features of the year in regard to this branch of the work are the following :—

Diphtheria (p. 85).

The incidence of this disease increased by .27 to 1.83 per 1,000 of the population. On the other hand, the case mortality fell from 3.4 per cent. to 2.1 per cent. This is, indeed, a notable achievement and is due probably to two factors :—

(1) Earlier diagnosis by the general practitioner which has resulted partly from the improved facilities commencing with those given by the preventive medicine department for early bacteriological diagnosis.

(2) Hospital treatment—no less than 95 per cent. of the cases were admitted to hospital.

Immunisation.

This work has proceeded slowly during the year. Less than 1,500 children were immunised. The total number of children protected in the city up to the end of 1934 was 8,187. It is a matter for regret that the response on the part of parents has not been greater.

When it is considered that there are 86,000 (approximately) children under the age of 15 in the city, it is perfectly useless to try

and expect the incidence of the disease to fall when such a small proportion of the susceptible population—less than 10 per cent.—have been protected.

Great harm may be done by attempting to prove statistically the value of immunisation with such small figures. The true value is appreciated much more when one meets, time after time, young immunised children who have escaped the disease, whilst the rest of the child population of the family, not immunised, have contracted it Dozens of examples of this kind have come to my knowledge personally during the year.

Another point of view of the problem is the following :—

From amongst the 8,187 children immunised artificially, 12, nearly all mild, cases of diphtheria occurred during 1934. This gives an incidence rate of 1.4 per 1,000. On the other hand, amongst the remaining child population, many of whom were no doubt immunised naturally, the incidence of the disease was 9.5 per thousand. That is to say, the incidence of diphtheria amongst the child population who were not protected artifically was seven times that in the immunised. The death rate in the latter was nil.

Again I should like to stress the importance of having every child Schick-tested after an immunising course, for only by that means can it be ascertained whether or not the child is protected.

Other diseases.

There was a marked increase in the number of *scarlet fever* cases in the city—the incidence rate being 2.5 per thousand, as compared with 1.88 the previous year, but the death rate was negligible.

There were 17 cases of *cerebro spinal fever* notified during the year, and there were 14 deaths from this disease.

Enteric fever has nearly disappeared from the city, only four cases were reported and there were no deaths.

There were 12 deaths from *measles* and 18 from *whooping cough* : all except one case of measles were under five years of age. The latter disease was very prevalent during the year.

There were 56 less deaths from *heart disease* during 1934 than in the previous year. The well-known association between this condition and respiratory diseases (including influenza) has to be remembered in this connection, for the latter disease was nearly absent from the city during the year.

Tuberculosis.

The incidence of tuberculosis fell from 1.75 to 1.64 per thousand, and the death rate fell from .95 to .86 per thousand. The decline was entirely due to a fall in the number of pulmonary cases : the non-pulmonary figures remaining the same.

Dr. Faill contributes an interesting report (*vide* p. 101) of the work of the tuberculosis dispensary during which he discusses the incidence of pulmonary tuberculosis per 100,000 living in each of the three census years 1911, 1921, 1931, including a review by Dr. Currie, assistant tuberculosis officer, of our experience of artificial pneumothorax.

Cancer (p. 93).

This disease was again the second greatest cause of mortality and was responsible for 650 deaths in Bristol during 1934. One out of every seven deaths that occurred in the city was caused by this disease and the number has been steadily increasing over many years. Attempts have been made in various quarters to minimise the importance of this increase, because it can be explained partially by an increase in the number of people at risk, because of age, etc. Such explanations are unsatisfactory, and fail to face the real fact that a greater number of people in the prime of life is dying all over the country from this dreaded disease. A factor of considerable importance, which is frequently forgotten, is that treatment of some forms of the disease in its early stage is more successful than it ever has been before. For example, it has been stated that between 20 and 25 per cent. of cases of cancer of the breast can be cured to-day, yet the standardised mortality rate from the disease in that site is the same as it was 20 years ago. The solution of the problem, in my opinion, rests as I have stated elsewhere in a co-ordinated preventive scheme available to everyone without consideration of money and means.

Radium (p. 95).

Dr. Sylvia Wigoder, the radium officer at the radium centre in the Bristol Royal Infirmary has forwarded an interesting report upon the work of that clinic, which controls the Commission's loan radium. There has always been excellent co-operation between Dr. Wigoder and the health department, and the best thanks of the department are due to her for her willing assistance at all times. All cases of cancer coming to the care of the Health Committee are referred for the opinion of Dr. Wigoder as to the possibility of radium treatment being of value.

At various times (in 1933 and 1934) the Radium Commission has criticised the scheme for radium treatment as it exists in Bristol. The actual position in Bristol appears to be as follows :—

There are three masses of radium available in the city :—

(a) A quantity of 499.28 mgrms. which has been loaned by the Radium Commission, and is situated at the clinic established at the Bristol Royal Infirmary. Dr. Sylvia Wigoder was appointed by a combined committee of the Bristol University and the Bristol Royal Infirmary as radium officer for the radium centre for Bristol and south-west England.

It appears that the scheme involved the selection of a technical officer with special experience and knowledge of radium to act as technical advisor to the clinician. Some of us who have had special experience of radium and know of the risks associated with its use in unskilled hands, appreciate the need for such a technical officer in relation to any radium scheme. Dr. Wigoder is an officer with such special experience and is entirely responsible for the use, the safeguard, and the records of national radium

at this centre. The conditions governing the use of this radium are—that it is never taken out of the Royal Infirmary, that records of the patients treated with this radium are carefully kept and that the progress of the patients is followed up from time to time. With regard to the other masses of radium at the hospitals, there is no technical officer associated with its supervision and safeguard and it would appear as if there was competition instead of co-operation for its use in the city.

(b) A mass of 200 mgrms. owned by the Bristol Royal Infirmary and kept separately from the Commission's loan quantity. This radium can be used for patients in the Bristol Royal Infirmary or can be hired for the use of private patients outside the Bristol Royal Infirmary.

(c) A mass of 420 mgrms. owned by the Bristol General Hospital which is used more or less in the same manner as (b).

Blind persons (p. 112).

Attention is drawn to two developments in this branch of public health work :—

(a) The Blind Persons Act Committee has not been satisfied merely with the work of supervising the blind, but is actively interested in the important work of preventing blindness.

As mentioned in my report for 1933, for this purpose the committee has inaugurated a scheme for the after care, on leaving school, of juveniles who whilst at school were receiving special supervision for their eyesight. Special examinations by the specialist are arranged and the suitability of the employment is considered. This scheme has now come into operation and is found to work satisfactorily.

(b) An improved scale of financial help has been adopted for the unemployable blind.

Ham Green Hospital and Sanatorium (p. 116).

The medical superintendent draws attention to various matters of interest and importance in his report. More especially he refers to the mildness of scarlet fever, with the consequent secondary attacks and a higher percentage of return cases. He also refers to the application of his treatment to diphtheria and to puerperal fever and pyrexia, and appeals for greater consideration to research work by local authorities. In regard to the sanatorium, he expresses his disappointment with the results of treatment by gold.

Southmead Hospital.

An interesting report by the medical superintendent will be found on page 122. The following figures indicate the increase in

the number of patients treated at the hospital yearly since it was appropriated in 1930 :—

Year	No. of beds	Deaths*	Discharges*	Remaining in Institutions end of year*	Total
1930	672	387	1,876	627	2,890
1931	672	544	2,620	608	3,772
1932	672	506	2,705	518	3,729
1933	540	494	2,860	437	3,791
1934	540	481	3,165	439	4,085

* including babies born in institution.

This increase has occurred in spite of curtailment of the number of beds available through the closing of the old temporary block which accommodated cases of mental deficiency ; the alterations which were made to modernise the maternity section and the appropriation of a small chronic block for resident officers' quarters.

The extent to which the hospital is used for the treatment of acute cases is seen from the fact that there were 2,353 of the total number of patients (4,085) in hospital for less than four weeks. This is 209 more than in 1933. Also, the number of operations has increased from 278 in 1931 to 461 in 1934. This is, of course, as it should be. The crying need of the city for many years has been for more hospital beds for the treatment of the acute sick. It is right, therefore, that the municipal hospital should take its part and its responsibility in the early treatment of disease and not be merely a reservoir for incurable cases. To make our municipal hospital play its proper part in the life of the community, there is still need for considerable development.

During the year the Health Committee has made a serious attempt to equip the hospital on modern lines. In the coming year it is faced with the great task of still further improving the accommodation at the hospital for patients and staff. The public of Bristol have already realised that the treatment to be obtained at the municipal hospital is not inferior to that in our voluntary institutions.

Reports from the medical officers of Frenchay Park Hospital, Stapleton and Eastville Institutions and from the dental officer will be found in section ix.

Medical literature.

The following contributions to medical and allied literature concerning clinical and other material obtained while in the Corporation service have been made by members of the staff since my last report was published :—

I. Walker Hall, M.D., (Director of preventive medicine laboratories and emeritus professor in the University of Bristol) with F. Curtis.

" Meat discoloration."

(*Sanitarian*, 1934).

K. H. Pridie, M.B., B.S., (Lond.) F.R.C.S. (Eng.), (Assistant orthopaedic surgeon, Health and Education Committees).

"The treatment of tuberculous disease of the spine in children.'

(*Medical Press and Circular*, 21st March, 1934).

L. Rowland Jordan, M.D., M.R.C.S. (Assistant medical officer, Southmead Hospital).

"Pathological fracture in gumma of tibia."

(*British Medical Journal*, 14th April, 1934).

Geoffrey Hadfield, M.D., F.R.C.P., Lond., Vincent Magee, M.B., B.Sc. (Belf.), D.P.H., and C. Bruce Perry (Professor of medicine, Bristol University : consultant physician, Health and Education Committees), M.D., (Brist.), M.R.C.P. (Lond.)

"The lysis of fibrin by streptococci : its application to the problems of rheumatic infection in children."

(*Lancet*. 21st April, 1934).

C. Bruce Perry (Professor of medicine, Bristol University; consultant physician, Health and Education Committees), M.D., (Brist.), M.R.C.P. (Lond.).

"The sedimentation rate in rheumatic carditis."

(*Archives of Disease in Childhood*, Vol. 9, No. 53, October, 1934).

B. A. I. Peters, B.A., M.D., B.Ch., D.P.H. (Cantab.) (Medical superintendent, Ham Green Hospital and Sanatorium) : and B. J. Boulton, M.B., Ch.B., (Bristol) and C. Short, M.B., Ch.B., D.P.H., (Edin.) (Assistant medical officers, Ham Green Hospital and Sanatorium).

"An investigation of streptococcal infections from a chemico-physical angle."

(*Public Health*, June, 1934).

J. D. Allan Gray, M.B., F.R.C.P. (Edin.), D.P.H., (Preventive medicine department, University of Bristol), and A. D. Gardner, M.D. (Oxon), F.R.C.S. (Eng.)

"A case of paratyphoid A fever in Bristol."

(*Lancet*, 7th July, 1934).

P. Phillips, M.D., M.Sc., (Medical superintendent, Southmead Hospital) and D. M. Stone, M.D., D.P.H. (Department of Preventive Medicine, Bristol University).

"Cerebral dermoid.'

(*Bristol Medico-Chirurgical Journal*, Winter, 1934).

Mr. E. H. Scorrer (Port sanitary and food inspector, Bristol).

"The deratisation of ships."

(Paper read at Royal Sanitary Institute Congress at Bristol, July, 1934).

A reference is made on p. 94 to a publication by—

Percy Stocks, M.A., M.D., D.P.H. (Medical statistical officer, General Register Office, Somerset House, London).

"The frequency of cancer deaths in the same house and in neighbouring houses."

(*Journal of Hygiene*, 4th March, 1935).

Several important contributions to medical literature have also been made during the year by Professor J. A. Nixon, *C.M.G.*, M.D., M.R.C.S., Professor E. W. Hey Groves, M.S., F.R.C.S., Professor H. J. Drew Smythe, M.D., M.S., F.R.C.S., F.C.O.G., A. W. Adams, Esq., M.S., F.R.C.S., and Norman Burgess, Esq., M.A., M.D., B.Ch., M.R.C.P., (Lond)., M.R.C.S. (Eng.)

The work of a busy year was again lightened by the uniform courtesy extended to me by the chief officers of the Corporation and the various committees with which I have been associated during the year. Particularly, my best thanks are due to the chairman and members of the Health Committee for their encouragement in the maintenance and development of public health work in Bristol.

I am, my Lord Mayor, Ladies and Gentlemen,

Your obedient servant,

R. H. PARRY,

Medical Officer of Health.

Public Health Department,

Bristol.

May, 1935.

1.—SOCIAL CONDITIONS.

1933		1934
22,555	Land acreage	22.555
1,528	Tidal water acreage ...	1,528
410,870	Population—Registrar General's mid-year estimate ...	410,500
93,958	Estimated no. of inhabited houses	96,431
1,543	Estimated no. of void houses	1,724
£2,796,816	Rateable value inclusive of	£3,036,471
£21,112	Government property	£21,727
£11,034	Penny rate yield (approx.) ...	£12,150
£168,195	Outdoor relief	£165,967
4,666	Cases relieved on 30th June	4,578
4,803	,, ,, 29th Dec.	4,119
11,788	Persons relieved on 30th June	10,819
11,684	,, ,, 29th Dec.	8,252
18,141 (1st Qr.)	Highest recorded number of wholly unemployed men ...	16,201 (1st Qr.)
2,344 (1st Qr.)	,, ,, women	1,916 (1st Qr.)
1,092 (3rd Qr.)	,, ,, boys	1,706 (3rd Qr.)
949 (3rd Qr.)	,, ,, girls ...	1,252 (2nd Qr.)
1,192	Parks and open spaces (acres)	1,205
11	Public baths and washhouses	11
159	Public conveniences ...	160
66	Public bowling greens-rinks	66
47	Public tennis courts ...	47
6	Public putting greens ...	6
1	Public golf courses	1
53	Public drinking fountains ...	55

The figures in the foregoing table indicate the changes which have occurred during the year in some of the more important matters bearing on the social life and welfare of the community.

There was no extension of the city boundary in 1934 and the *area of the city* remains at 22,555 acres.

The *population* as estimated by the Registrar General at mid-1934, is 410,500, a decrease of 370 on the figure supplied for mid-1933.

The estimated number of *inhabited houses* on the 31st March, 1935 according to the rate book, has increased by 2,473, void houses by 181, giving a total of 98,155 houses, inhabited and void, compared with 95,501 last year, while the *rateable value* of the city on the 1st April, 1934, inclusive of government property (£21,727) was £3,036,471 representing a penny rate yield for the half-year ended 31st March, 1934 of £11,215, and for the half-year ended 30th September, 1934, of £12,270. The revaluation of property as from the 1st April, 1934 is estimated to produce £12,150 for the financial year ended 31st March, 1935. The rates levied for the year were 11/- in the £ except in districts affected by the Somerset Review Order 1933 where there is a differential rating

of 2/6 in the £. Of this sum, expenditure on public health services (1/4.4d.) was made up as follows :—

Hospitals, sanatoria, etc.	
(a) for tuberculosis	4.6d.
(b) ,, venereal disease ...	.5d.
(c) ,, infectious disease ...	2.3d.
(d) ,, general hospitals ...	1.6d.
Maternity and child welfare	2.2d.
Port sanitary service	.1d.
Blind Persons Act	.8d.
Other health services	2.4d.
School medical service including provision of meals	1.9d.

Bristol is amongst the lowest rated of all the ports and industrial centres of the United Kingdom.

The state of *employment* undoubtedly exercises a marked effect on the health and well-being of the people and Bristol—like the rest of the country—has for a long time experienced a lack of that prosperity which alone can bring in its train the blessings of good food, happiness and better living conditions for the masses.

The variety of our local industries (over 300 distinct industries) has protected us from suffering such deep trade depression as those towns where there is practically only one industry.

According to the occupation statistics derived from the 1931 census of England and Wales, published during the year by the Registrar General, only 10.9 per cent. of the working population (188,461) were out of work at the time the census was enumerated and since 1932 statistics from the employment exchange have indicated continued improvement in local employment conditions.

The census figures show that 13.3 per cent. of our working population is engaged in commercial finance and insurance, excluding clerks, closely followed by personal service, including institutions, hostels, etc. (12.2), transport and communication (11.4), clerks, draughtsmen and typists (8.8) and metal workers (6.4). These five groups of defined occupations account for over half of our working population. Large sections of the local population are engaged in the textile trades (5.2), warehousemen, storekeepers, etc. (4.5), professional occupations (4.2), foods, drinks and tobacco (4.0), building bricklayers, stone and slate workers (3.9) and workers in wood and furniture (3.2), printers and photographers (2.0), paper cardboard, bookbinders, etc. (1.9), painters and decorators (1.9), public administration and defence (.9), electrical apparatus makers, etc. (.9), agriculture (.8), stationary engine drivers, dynamo and motor attendants (.6), entertainment and sport (.5), musical instruments, vehicles, shipbuilders, etc. (.4), skins, leather and leather substitutes (.4), mining and quarrying (.4), bricks, pottery and glass (.3), chemicals, paints and oils (.3), rubber, bone, etc. (.2), watches, clocks and scientific instruments (.1), coal gas, coke and by-products (.05), precious metals and electro plate (.05), other undefined workers (11.2).

Abridged versions of the tables published by the Registrar General are given in this report (pp. 168–171).

The peak statistics for 1934 kindly furnished by the manager of the employment exchange indicate some improvement in local employment conditions last year, drops being recorded for wholly unemployed adult men and women, an improvement which however was offset by increases in the figures for boys and girls. The manager's comments on the position in 1934—quoted below—give indications of improved industrial conditions and prospects.

"In five separate months of 1934, the figures for the wholly unemployed section of the register were approximately 2,500 less than during 1933. This position would have been even better had it not been for the much increased influx of school-leavers during the year. This increase was due to the higher post-war birth rate. The number of boys and girls who left the local schools during the year was over 1,500 more than during 1933.

With regard to the industrial situation in the city, I am pleased to be able to report that during the year there was a decided improvement compared with the position which obtained during 1933. There was a greater demand for work-people in many of the local industries, and there appears good ground for hoping that the revival in trade of the past year will be maintained during 1935."

Outdoor relief administered in the city for the year ending 31st March, 1935, showed a decrease of £2,228 compared with the previous year.

The Weather of 1934.

Observations at Bristol.

Mean pressure at 9 a.m., G.M.T. (corrected)...	29.957 inches.
Departure from average	+0.010 inch.
Greatest pressure at 9 a.m.	30.933 ins. on Feb. 15th.
Least pressure at 9 a.m.	28.608 ,, ,, Dec. 15th.
Total rainfall at *Bishopston* (St. Andrew's Pk.)	25.60 ,,
Departure from average	—9.49 ,,
Number of rainy days	177.
Heaviest rainfall in 24 hours	0.88 ,, ,, Sept. 2nd.
Total rainfall at *Frampton Cotterell* ...	24.14 ,,
Departure from average (25 years)	—7.45 ,,
Number of rainy days	172.
Departure from average (25 years)... ...	—12.
Days with 0.04 in. or over	122.
Days with less than 0.04 in.	50.
Heaviest fall in 24 hours	0.94 ,, ,, Sept. 2nd.
Mean humidity at 9 a.m.	84.2%
Mean temperature (max. & min.)	50.6 degrees.
Departure from average (25 years)	+1.4 degree.
Maximum temperature in shade	87.7 degrees on July 10th.
Minimum temperature	20.7 ,, ,, Feb. 3rd.
Mean temperature warmest day	72.8 ,, ,, July 8th.
Mean temperature coldest day	31.2 ,, ,, Feb. 2nd.
Hours of bright sunshine	1,652½.
Departure from average (25 years)	+126.
Days of bright sunshine	133.
Days entirely overcast	60.
Days upon which thunder observed ...	16.
Days ,, ,, fog ,, ...	36.
Days ,, ,, snow ,, ...	4.
Number of frosty nights	42.
Number of ,, on grass	87.

While the past year did not open with a rainfall equal to that of New Year's Day in 1933 when the best part of an inch was recorded locally, it, with two exceptions, gave more or less rain each day to the 19th, by which time the average fall for January had almost been reached. Then came a rapid increase of pressure bringing a spell of cold fair weather which, apart from one break, lasted to the close. As a whole the opening month showed little change from normal and gave little indication of the unusual weather to come.

This commenced with the following month, and to find conditions comparable with those of February it is necessary to look back at least 43 years. Then, as in the present instance, the prece ing year had been one of consistent drought, especially accentuated during the autumn months, and accompanied in December by severe cold. Following this came a normal January rainfall, while February proved practically rainless and was marked by a succession of sunny days, sharp frosts and frequent foggy nights. These two months indeed constitute the two finest winter months on record in this district and their principal results are as follows :—

	Mean temp.	Rainfall.	Rainy days.	Sunny days.	Frosty nights.
1891 ...	40.9 degrees	0.01 inch	1	16	15
1934 ...	37.9 ,,	0.26 ,,	3	15	14

Unsettled conditions returned with March and this month brought frequent but not heavy rains, and in marked contrast to its predecessor a year before, it was cold throughout and its frequent ground frosts prevented much progress by vegetation. April commenced with variable conditions but, following a severe frost—the last of the season—during the night following the 7th, the temperature rose steadily and spring came on apace. Indeed, while the first week had found vegetation as backward as is often the case early in March, by the third week progress had been so rapid that most of the leeway had been recovered. Frequent but no heavy rains marked the month.

May, for the second time in succession, proved entirely free from frost, and apart from one or two early rainfalls, its weather was almost continuously fine. The temperature however was erratic, and although the mean was normal, a maximum of 80 degrees was recorded on the 12th—the highest so early in the season this century. In 1893 however a similar value occurred in Bristol on April 21st.

The weather of June was similar in almost every respect to that of the month in 1933. In sunshine, temperature and rainfall, the results were alike, and while there have been several occasions in the past when rainfall has been deficient in consecutive years, it is a very long time since June has been so warm twice running. The exact figures for the two years are as follows :—

	Mean temp.	Sunshine.	Rainfall.	Rainy days.
1933 ...	61.4 degs.	218 hours	1.77 inches	12
1934 ...	61.1 ,,	215 ,,	1.03 ,,	8

Only once before this century and for many years before has such warmth come to us as that of July. This was in 1921 when the month gave a mean temperature of 67.1 degrees. Before that the record was 65.7 degrees for July 1911, with August of the same year a good second with 65.6 degrees. In one regard, however, the month this season is unique inasmuch as each of its days gave maximum of 70 degrees and upwards—70.5 degrees on the 27th being the lowest value recorded at this station. In 1911 the first four days were all cold, but from the 5th onward to August 5th a maximum of 70 degrees or above were continuous. Indeed in that wonderful summer during the 70 days, July 5th to September 12th inclusive, there were only four maxima locally below 70 degrees; while on three occasions—once in each month—the temperature reached 90 and upwards, the maximum being 93 degrees on August 13th.

With August came more normal weather apart from a continued deficiency of rain and towards the close some very cold nights, but September brought on the 2nd the heaviest rainfall of the season. Still the first half of this month was fine and summerlike, but from the 17th to the close rain fell daily, although never heavily.

Considering that the autumn usually brings the heaviest rains of the year it is most remarkable that twice in succession, October and November should prove so dry. October gave many rainy days but the falls were never heavy and its total was even less than in 1933. November it is true doubled its total of that year but still its deficiency is the most considerable of any month of the twelve with the exception of February. The chief feature of the month however was its absence of sunshine and at many stations this constituted a record. Locally since 1906 the only months to give Bristol less than 50 hours sun have been :—

January, 1913	... 49 hours.	February, 1926	... 47 hours
December 1913	... 45 ,,	December 1927	... 42½ ,,
December 1915	... 47 ,,	December 1930	... 46½ ,,

and November 1934 ... 32 hours.

With November giving no rainfall during its last two weeks there appeared a strong probability that the year would prove one of the driest on record, but with December came the much desired change. Its opening day brought the third greatest fall of the year, together with a temperature equal to that of an April day, and little change from these conditions took place during the month. The total fall proved the third highest recorded in the Bristol district for December, this month's total exceeding 6 inches since 1853 being :

6.96 inches in	1876	at Clifton (Dr. Burder).
6.16 ,,	1914	at Frampton Cotterell.
7.13 ,,	1929	,, ,,

There is no doubt however that its high temperature was the month's outstanding features, this being quite without precedent, the warmest Decembers of the past locally being :

December	1857	Mean temp.	46.3 dgs. (Dr. Burder).
,,	1898	,,	46.6 ,,
,,	1918	,,	45.5 ,,
,,	1934	,,	46.8 ,,

Taking the year as a whole as with 1933 its outstanding features have been its warmth and dryness. In respect to the latter it may be of interest to add the years of the past with less than 26 inches of rain in Bristol. These have been :

1854	...	23.66	inches	(Dr. Burder at Clifton)
1855	...	24.70	,,	,, ,, ,,
1864	...	22.74	,,	,, ,, ,,
1870	...	23.43	,,	,, ,, ,,
1887	...	25.79	,,	,, ,, ,,
1890	...	24.91	,,	,, ,, ,,
1896	...	24.89	,,	(Fishponds
1901	...	24.46	,,	,,
1902	...	23.53	,,	,,
1905	...	23.12	,,	,,
1908	...	23.88	,,	Frampton Cotterell
1911	...	24.65	,,	,,
1913	...	25.61	,,	,,
1921	...	19.57	,,	,,
1933	...	25.47	,,	,,

Two periods of drought were recorded during the year, viz. : January 26th to February 23rd inclusive—29 days with 0.06 inch of rain, including an absolute drought of 20 days February 4th to 23rd, and May 9th to June 20th—43 days with 0.28 inches of rain, including absolute drought of 17 days from May 21st to June 6th.

As in previous years I am indebted to Mr. H. Vicars Webb for the figures relating to St. Andrew's Park.

H. H. Harding, F.R.Met.Soc.

II.—VITAL STATISTICS.

Summary for 1934.

1933	Extracts for the Year.	1934
13.66	Birth Rate per 1,000 population	13.92
13.19	do. legitimate	13.46
.47	do. illegitimate	.46
12.00	Death Rate ,, ,, ,, ...	10.86
1.66	Natural increase ,, ,, ...	3.06
54.9	Infant Mortality per 1,000 livebirths—	45.9
53.7	Legitimate	44.2
87.6	Illegitimate	95.7
30.4	Neo-natal Mortality per 1,000 livebirths ...	27.7
44.4	Stillbirth Rate per 1,000 total births ...	43.1
41.9	do. legitimate	40.2
2.5	do. illegitimate	2.8
4.44	Maternal Mortality per 1,000 total births	4.19
1.71	Puerperal sepsis	1.34
2.73	Other puerperal causes	2.85
.22	Zymotic death rate per 1,000 population ...	.16
15.5	Marriage Rate per 1,000 population ...	16.7
5,592	*Livebirths :	**5,712**
2,759	Legitimate males	2,816
2,639	,, females	2,708
98	Illegitimate males	100
96	,, females	88
260	*Stillbirths—	**257**
125	Legitimate males	138
120	,, females	102
6	Illegitimate males	8
9	,, females	9
4,913	Deaths—	**4,458**
37.08	Percentage of deaths occurring in public institutions	40.40
10	Maternal deaths from sepsis	8
16	,, ,, ,, other causes	17
14	Deaths from measles (all ages)	12
16	,, ,, whooping cough (all ages) ...	18
31	,, ,, diarrhoea (under 2 years of age)	17
336	,, ,, pulmonary tuberculosis... ...	301
292	,, ,, influenza	18
22	,, ,, diphtheria	16
4	,, ,, scarlet fever	1

* Figures supplied by Registrar General.

Note (1). Unless otherwise stated all figures relating to vital statistics in this report are compiled from local returns.

(2). The vital statistics furnished by the Registrar General for Bristol for 1934 together with annual summaries back to 1923 and quinquennium figures from 1881/1885 to 1926/1930 are printed in the appendix to this report together with comparative rates for England and Wales for births, deaths, infant and maternal mortalities.

Comparative Statistics, 1934.

	Population	Rate per 1,000 population.		Rate per 1,000 live births	Rate per 1,000 total births		
					Maternal deaths		
		Live Births	Deaths	Deaths under one year	All causes	Puerperal sepsis	Still-births
England & Wales	—	14.8	11.8	59	4.41	1.95	40
121 County Boroughs ...	—	14.7	11.8	63	—	—	—
Birmingham ...	1,028,000	13.5	11.0	68	3.69	1.78	35.7
Liverpool ...	866,013	20.3	13.1	81	2.79	1.37	37.47
Manchester ...	773,593	14.81	12.24	69	4.25	1.08	44.6
Sheffield ...	518,525	14.52	11.35	55	6.23	3.69	42.59
Leeds ...	486,250	14.79	12.94	71	3.86	2.00	42.6
Bristol ...	**410,500**	**13.92**	**10.86**	**46**	**4.19**	**1.34**	**43.1**
Bradford ...	293,650	13.68	13.49	62	5.42	1.89	53.05
West Ham ...	276,150	15.6	11.6	65	1.7	.89	31.2
Nottingham ...	281,850	15.6	12.31	69	2.4	1.5	40.4
Portsmouth ...	248,900	15.86	12.36	44	4.66	1.96	30.9
Cardiff ...	221,050	15.8	12.3	74	7.3	3.2	51.2
Plymouth ...	203,450	15.7	12.05	54	4.2	1.8	35.53

Above are given comparative statistics for Bristol compared with eleven other large towns, the county boroughs, and with England and Wales. The features in regard to the figures for Bristol are as follows :—

1. The city has the lowest birth-rate with the exception of Birmingham and Bradford, our birth-rate being .88 below the rate for the whole country.
2. Without exception we had the lowest death rate, being 1 per 1,000 population below the rate for the whole country.
3. Our infant mortality rate is the lowest of those quoted with the single exception of Portsmouth, and is 13 per thousand births below the rate for the whole country.
4. Our maternal mortality and stillbirths rates equal or are slightly above the rates for the whole country.

Marriages.

	No.	Rate per 1,000 population
Bristol	3,435	16.7
England & Wales	341,284	16.9

The marriage rate in Bristol for 1934, which shows a rise of 1.2 per 1,000 population above the rate last year and was the highest recorded since 1930, may be regarded as an indication of improved local industrial conditions.

Similarly, the provisional marriage rate for England and Wales (16.9) shows an increase of 1.1 per 1,000 population, being the highest recorded since 1921 when it was the same (16.9).

Births.*

	No.	Rate per 1,000 population
Bristol	5,712	13.9
England & Wales	598,084	14.8

The provisional live birth rate for England and Wales of 14.8 per 1,000 population showed an increase of .4 above the low record of 1933 and was noteworthy as being the only increase recorded since 1920 except in 1928 when there was an improvement of .1 following an exceptional fall in the previous year.

(*a*) Bristol's *live birth rate* of 13.9 per 1,000 population allows us to record for the first time for 14 years an upward tendency in the rate. The small rise of .26 per 1,000 over the low record for 1933, after so many years of steadily falling rates, presages, we trust, freedom in the future from the use of the phrase "lowest ever recorded in Bristol," a comment which has become hackneyed by constant repetition in these reports.

The rate, however, is still much below even the mean birth rate for 1926/1930—16.3 per 1,000—and a decline in our population seems inevitable unless more births occur annually.

(*b*) The *natural increase* of the population, or in other words, the excess of births over deaths, was 3.0 per 1,000 compared with 1.66 in 1933 and an average of 3.9 for the previous ten years.

(*c*) If we compare this year's birth rate with the mean birth rate for the first five years of this century (27.2 per 1,000 population), we are confronted with a drop of 13.3 per 1,000. This means that 5,500 fewer babies were born in

Bristol last year than would have been the case had the birth rate been the same as the mean for 1901/1905.

(*d*) There were 205 illegitimate births during the year or four less than in the previous year. This figure equals 3.4 per cent. of the total births, compared with 3.6 per cent. in 1933.

Total births registered by sex and legitimacy and in registration sub-districts.†

Total 1933		Total 1934	Live births.		Still births	
			Males	Females	Males	Females
5,923	Legitimate ...	6,042	2,959	2,816	147	120
236	Illegitimate ...	260	128	115	9	8
6,159	TOTAL ...	6,302	3,087	2,931	156	128
444	Ashley ...	480	228	237	11	4
1,268	Bristol South	1,207	626	548	13	20
1,507	,, Central	1,522	716	702	52	52
799	Clifton ...	873	411	421	25	16
800	St. George ...	794	409	359	17	9
456	Stapleton ...	417	192	214	8	3
885	Westbury-on-Trym ...	1,009	505	450	30	24

† These figures are uncorrected.

Stillbirths.

	No.	Rates	
		Per 1,000 population	Per 1,000 total births
Bristol	257	.63	43
England & Wales	25,223	.62	40

The stillbirth rate for Bristol of .63 per 1,000 population was .01 below that for 1933 while the rate per 1,000 total births (including stillbirths) was 43.1 compared with 44.4 last year. The rate for the past two years has been slightly above the average for the first five years of registration (1928–1932). Prior to 1st July, 1927, stillbirths were not registrable.

Births notified.

The number of births notified under the Notification of Births Act 1915 is included in the report on the maternity and child welfare section.

Deaths.

1933		Principal causes of death.	Net deaths in 1934	% to total deaths.	Death rate per 1,000
2	1	Typhoid and paratyphoid fevers ...	—	—	—
14	2	Measles	12	.27	.03
4	3	Scarlet fever...	1	.02	.002
16	4	Whooping cough	18	.40	.04
22	5	Diphtheria	16	.36	.04
292	6	Influenza	18	.40	.04
6	7	Encephalitis lethargica	12	.27	.03
6	8	Cerebro spinal fever	14	.31	.03
336	9	Tuberculosis of respiratory system	301	6.75	.73
54	10	Other tuberculous diseases ...	52	1.17	.13
17	11	Syphilis	16	.36	.04
22	12	General paralysis insane, tabes dorsalis	14	.31	.03
584	13	Cancer, malignant disease	646	14.49	1.57
56	14	Diabetes	65	1.46	.16
255	15	Cerebral haemorrhage, etc. ...	236	5.30	.57
1,156	16	Heart disease	1,100	24.67	2.68
16	17	Aneurysm	20	.45	.05
20	18	Other circulatory diseases	20	.45	.05
183	—	Arterio-sclerosis	167	3.75	.41
178	19	Bronchitis	110	2.47	.27
282	20	Pneumonia (all forms)	230	5.16	.56
94	21	Other respiratory diseases	88	1.97	.21
21	22	Peptic ulcer	40	.90	.10
41	23	Diarrhoea, etc.	26	.58	.06
25	24	Appendicitis	29	.65	.07
11	25	Cirrhosis of liver	11	.25	.03
21	26	Other diseases of liver, etc. ...	18	.40	.04
99	27	Other digestive diseases	95	2.13	.23
181	28	Acute and chronic nephritis ...	167	3.75	.41
10	29	Puerperal sepsis	8	.18	.02
16	30	Other puerperal causes	17	.38	.04
188	31	Congenital debility, premature birth, malformations, etc.	171	3.83	.42
139	32	Senility	122	2.74	.30
57	33	Suicide	59	1.32	.14
154	34	Other violence	155	3.48	.38
314	35	Other defined causes	349	7.83	.85
20	—	Rheumatic fever	32	.72	.08
1	36	Causes ill-defined or unknown ...	3	.07	.007
4,913			4,458	100.00	10.86

The total number of deaths registered during the year was 4,458, a decrease of 455 on the number recorded in 1933. The deaths, which comprised 2,176 males and 2,282 females, have been classified throughout this section under the principal causes according to the manual of the international list of causes of death, and will be found in quarters, age groups and in registration sub-districts.

These deaths give a crude *death rate* of 10.86 per 1,000 population, a decrease of 1.14 on the previous year, constituting the lowest death rate recorded in Bristol. It is also 1.1 below the lowest quinquennial mean death rate, that for the five years 1926/1930 (11.9).

The provisional crude death rate for England and Wales for 1934 was 11.8 per 1,000 (.9 higher than Bristol), a decrease of .5 below that for 1933 and only .4 above that for 1930 which was the lowest recorded. The same rate (11.8) was recorded for the combined county boroughs.

The Registrar General points out that " if the populations of all areas were similarly constituted as regards the proportions of their sex and age group components, their crude death rates (deaths per 1,000 population) could be accepted as valid comparative measures of the mortalities experienced by the several populations. In practice, however, populations are not thus similarly constituted and their crude deaths rates fail as true comparative mortality indexes in that their variations are not due to mortality alone but arise also from differences in their population constitution, the two elements being combined in indistinguishable proportions. In order to isolate the mortality factor it is first necessary to identify and remove the population variable.

One of the methods commonly adopted for this purpose is to select a set of mortality sex-age rates as a standard and to ascertain the hypothetical population death rates yielded by applying the standard mortality to the appropriate sex-age sections of the populations under review; variations in the hypothetical death rates thus produced can only arise from differences in population constitutions and they thus provide a means of assessing the extent to which the ordinary crude death rates should be modified in order to provide a valid mortality comparison as between one population and another.

For the present purpose, the average mortality rates experienced in England and Wales during the three years 1930/2 divided into 11 sex-age groups have been adopted as the standard and have been applied to the corresponding sex-age groups in the 1931 census population of every borough, urban district and rural district in the country. The adjusting factor now supplied in respect of a given area represents the ratio of the resulting death rate for the national 1931 census population to the similarly obtained hypothetical death rate for the said area. The factor may be said to represent the population handicap to be applied to the area and, when multiplied by the crude death rate experienced in the area, modifies the latter so as to make it comparable with the crude death rate for the country as a whole or with the similarly adjusted death rate for any other area. Strictly, the adjusting factor applies only to death rates experienced in the year 1931 on which the several population handicaps have been measured, but population constitutions change relatively slowly, and save in exceptional circumstances, the 1931 factor may be used for practical purposes until fresh population constitutions are available from the next census."

In order therefore, to make the local crude death rates of 1931 and subsequent years comparable, from a mortality point of view, with the crude death rate of the country as a whole or with the

mortality of any other local area, they must be modified with a comparability factor. The adjusted death rates for Bristol are :—

	Bristol C.B.		Combined county boroughs	England and Wales
	Crude death rate	Adjusted death rate		
1934	10.9	10.7	11.8	11.8
1933	12.0	11.8	12.2	12.3
1932	11.6	11.4	11.8	12.0
1931	11.8	11.6	12.3	12.3

Causes of mortality.

The total deaths registered fell by 9.3 per cent. compared with last year. The drop in deaths is almost entirely due to the decline in the number of deaths due to respiratory diseases (mainly influenza) which alone account for no less than 7.2 per cent. of this fall. This, of course, is largely a result of the warm and dry summer experienced last year, followed by mild and equable weather in the winter months.

Heart disease again heads the list in order of numerical importance, as the principal cause of mortality, with 24.67 per cent. of the total deaths, followed by cancer (14.49 per cent.), respiratory diseases excluding pulmonary tuberculosis (10.00 per cent) and pulmonary tuberculosis (6.75 per cent). More than half the total deaths registered (55.9 per cent.) were due to these four causes and the order is different only in one respect from last year, in that cancer displaces respiratory diseases from the second position.

Causes of death which show notable decreases, compared with the previous year, in the death rate per 1,000 population are respiratory disease (.99) including influenza (.67), heart disease (.14), and pulmonary tuberculosis (.09), which together more than account for the total fall in the death rate of 1.14 per 1,000 population. Eleven other causes show a total decline of .29 in the death rate, while in nine instances the death rate remains unchanged. There were no deaths during the year from typhoid or paratyphoid fever.

The increases in the death rate per 1,000 are confined to ten classifications, the most notable being cancer which shows an increase of .24 per 1,000, followed by peptic ulcer (.05), diabetes, encephalitis lethargica and cerebro spinal fever (.02 each).

Death rates in quarters.

The death rate for the first quarter of the year was 12.97 per 1,000 ; for the second, 11.04 ; for the third, 9.14 ; and for the fourth, 10.39. The first quarter is usually the heaviest because of deaths due to respiratory causes including influenza. Last year's freedom from the customary wave of influenza resulted in a drop of 4.63 per 1,000 in this quarter, and practically accounts for all of the reduction in this quarterly rate.

Causes of deaths by ages.

An examination of this age group table discloses that for certain causes the majority of deaths occurred in certain age groups, for instance :—

Measles	92%	under 5 years.
Whooping cough	100%	,, 5 years.
do.	61%	,, 1 year.
Diphtheria	88%	,, 15 years.
Diarrhoea, etc.	65%	,, 2 years.
Pulmonary tuberculosis ...	76%	between 25 and 65 years.
do.	43%	,, 25 and 45 years.
Influenza	61%	over 45 years.
Cancer	93%	,, 45 years.
Diabetes	68%	,, 65 years.
Heart disease	95%	,, 45 years.
do.	72%	over 65 years.
Pneumonia	63%	,, 45 years.
Peptic ulcer	75%	,, 45 years.
Appendicitis	59%	,, 45 years.
Liver diseases	86%	,, 45 years.
Nephritis	86%	,, 45 years.

The number of deaths of children under five years (pre-school age) amounted to 8.2 per cent. of the total deaths, of which 5.9 per cent. represent infants under one year ; children of school age (5-15) totalled 2.3 per cent. ; young people aged 15-25, 3.3 per cent. ; persons aged 25-45, 10.3 per cent. ; persons aged 45-65, 28 per cent. ; and persons aged 65 and upwards, 48 per cent.

Accidents as a cause of mortality.

In 1934, the deaths from causes due to violence, other than suicide, gave a death rate of .38 per thousand, the same as in the previous year. This rate includes a number of deaths directly due to street accidents in which vehicular traffic and cycles were concerned. The chief constable informs me that 45 fatalities occurred during the year from street accidents, so that .11 per 1,000 of the violence death rate may be directly attributed to this cause. Altogether, 1,135 traffic accidents were reported (83 more than in 1933) and the fatalities represent 3.96 per cent. of the total accidents. The table below, kindly supplied by the chief constable, indicates the number of accidents (fatal and non-fatal) attributable to the various types of vehicular traffic) and shows a considerable increase this year (113 or 25 per cent.) in the number of fatal and non-fatal accidents ascribed to pedal cycles, while those relating to trams and motor vehicles have fallen (by 22 or 3 per cent). The number having a fatal termination, however, has gone in the opposite direction. Pedal cycle fatalities have fallen by seven per cent. with a corresponding rise in mechanically-propelled vehicular fatalities. No horse-drawn vehicle fatalities have occurred in

Bristol since 1930. How do the accidents in these three main types of street traffic compare with those reported seven years ago? In 1928 pedal cycles were involved in 29 per cent. of the total accidents, trams and motor vehicles in 68 per cent.; horse-drawn vehicles in three per cent. This year, the corresponding figures are 39.1 per cent., 60.2 per cent. and .7 per cent., showing that pedal cycle accidents have risen in seven years by 10 per cent., while those attributed to mechanically propelled vehicles have fallen by 7.8 per cent.; horse-drawn vehicles by 2.3 per cent. In 1928, 26 per cent. of pedal cycle accidents had fatal results, mechanically propelled vehicles 74 per cent. This year the corresponding figures are 18 per cent. and 82 per cent. This illustrates (1) the increasing danger from mechanical traffic although the proportion of such accidents has fallen, and (2) that cycling is not so fatal a pastime as it was seven years ago, although cyclists are involved in many more accidents nowadays. Probably the true reason is that the reporting of street accidents is much more efficiently done.

1933	Accidents	Horse-drawn vehicles	Mechanically propelled vehicles				Pedal cycles	Total accidents, 1934
			Omni-buses and motor coaches	Tramcars and trackless trolley vehicles	Other vehicles	Total		
40	Fatal ...	—	2	1	34	37	8	45
1,012	Non-fatal	8	13	18	615	646	436	1,090

Miscellaneous.

The number of inquests and the deaths certified by the coroner after post mortem without an inquest, held at Bristol during the year was 423, 53 more than in 1933. This represents 9.5 per cent. of the total deaths registered.

Deaths in public institutions in Bristol, excluding deaths in nursing homes, totalled 1,801 or 40 per cent. of the total deaths registered compared with 37 per cent. last year.

1934.

Causes of death in quarters.

Total 1933		Disease.	Quarters. 1st	2nd	3rd	4th	Total 1934
2	1	Typhoid and paratyphoid fevers	—	—	—	—	—
14	2	Measles	8	4	—	—	12
4	3	Scarlet fever	—	1	—	—	1
16	4	Whooping cough	6	9	3	—	18
22	5	Diphtheria	5	3	2	6	16
292	6	Influenza	9	4	—	5	18
6	7	Encephalitis lethargica	2	1	5	4	12
6	8	Cerebro spinal fever	4	5	—	5	14
336	9	Tuberculosis of respiratory system	68	93	66	74	301
54	10	Other tuberculous diseases ...	18	13	10	11	52
17	11	Syphilis	7	5	3	1	16
22	12	General paralysis insane, tabes dorsalis	2	4	2	6	14
584	13	Cancer, malignant disease ...	160	153	164	169	646
56	14	Diabetes	21	15	13	16	65
255	15	Cerebral haemorrhage, etc. ...	72	56	47	61	236
1,156	16	Heart disease	345	268	234	253	1,100
16	17	Aneurysm	7	6	2	5	20
20	18	Other circulatory diseases ...	7	3	2	8	20
183	—	Arterio-sclerosis	49	41	44	33	167
178	19	Bronchitis	54	19	14	23	110
282	20	Pneumonia (all forms) ...	85	69	28	48	230
94	21	Other respiratory diseases ...	27	24	18	19	88
21	22	Peptic ulcer	8	10	11	11	40
41	23	Diarrhoea, etc.	8	5	5	8	26
25	24	Appendicitis	9	4	9	7	29
11	25	Cirrhosis of liver	3	1	5	2	11
21	26	Other diseases of liver, etc. ...	5	7	1	5	18
99	27	Other digestive diseases ...	28	24	23	20	95
181	28	Acute and chronic nephritis ...	50	44	35	38	167
10	29	Puerperal sepsis	3	1	2	2	8
16	30	Other puerperal causes... ...	4	8	2	3	17
188	31	Congenital debility, premature birth, malformations, etc. ...	51	43	41	36	171
139	32	Senility	44	32	21	25	122
57	33	Suicide	11	22	15	11	59
154	34	Other violence	37	37	40	41	155
314	35	Other defined causes	101	86	66	96	349
20	—	Rheumatic fever	8	10	3	11	32
1	36	Causes ill-defined or unknown	2	—	—	1	3
4,913		TOTAL ...	1,328	1,130	936	1,064	4,458
12.00		Death rate per 1,000	12.97	11.04	9.14	10.39	10.86

1934.

Causes of death at ages.

Cause of death.	Deaths in whole district at subjoined ages									Corrections made for transferable deaths.		Total deaths in Public Institutions.
	All ages	Under 1	1 and under 2	2 and under 5	5 and under 15	15 and under 25	25 and under 45	45 and under 65	65 and upwards	Inward Transfers (+)	Outward Transfers (—)	
Certified	4458	262	46	56	104	147	460	1237	2146	99	449	1801
Uncertified	..	..	..	..	..	..	..	..	..	..	..	..
1 Typhoid and paratyphoid fevers	..	..	..	..	..	..	..	..	..	..	..	..
2 Measles	12	1	3	7	1	..	..	..	..	..	..	10
3 Scarlet fever	1	..	..	..	1	..	..	..	..	..	..	1
4 Whooping cough	18	11	4	3	..	..	..	..	..	..	..	9
5 Diphtheria	16	..	1	5	8	..	..	2	..	..	1	13
6 Influenza	18	2	..	..	..	..	5	2	9	..	5	5
7 Encephalitis lethargica	12	..	1	1	1	3	3	3	..	..	..	10
8 Cerebro spinal fever	14	4	4	1	1	1	2	1	..	..	3	12
9 Tuberculosis of respiratory system	301	..	1	1	2	56	129	100	12	9	6	158
10 Other tuberculous diseases	52	1	3	10	12	10	9	3	4	3	6	38
11 Syphilis	16	6	..	..	..	..	4	6	..	..	3	13
12 General paralysis insane, tabes dorsalis	14	..	..	..	1	..	4	7	2	..	3	13
13 Cancer, malignant disease	646	..	..	..	2	5	39	302	298	8	92	249
14 Diabetes	65	..	..	1	..	..	5	15	44	..	7	30
15 Cerebral haemorrhage, etc.	236	..	..	..		..	5	76	155	4	5	70
16 Heart disease	1100	1	..	2	3	10	39	258	787	23	43	273
17 Aneurysm	20	..	..	..	..	..	1	12	7	..	4	9
18 Other circulatory diseases	187	..	..	..	..	1	2	47	137	5	8	37
19 Bronchitis	110	2	1	1	..	..	2	28	76	1	2	30
20 Pneumonia (all forms)	230	30	11	6	5	4	28	56	90	4	22	99
21 Other respiratory diseases	88	..	1	..	1	1	5	18	62	1	4	50
22 Peptic ulcer	40	..	..	1	..		9	19	11	1	8	29
23 Diarrhoea, etc.	26	15	2	1	..	1	1	..	6	..	2	18
24 Appendicitis	29	..	..	..	5	1	6	8	9	2	15	23
25 Cirrhosis of liver	11	1	..	..	..	..	1	8	1	..	2	6
26 Other diseases of liver, etc.	18	..	..	..	..	..	2	4	12	..	6	8
27 Other digestive diseases	95	3	..	2	4	1	13	33	39	1	25	64
28 Acute and chronic nephritis	167	..	..	..	1	4	18	63	81	3	14	80
29 Puerperal sepsis	8	..	..	..	..	2	6	..	..	..	2	6
30 Other puerperal causes	17	..	..	..	..	2	15	..	..	..	6	14
31 Congenital debility, premature birth, malformations, etc.	171	160	3	2	5	..	1	..	..	3	23	103
32 Senility	122	..	..	..	..	..	..	1	121	1	9	13
33 Suicide	59	..	..	..	..	1	21	26	11	3	7	5
34 Other violence	155	1	5	5	17	16	23	36	52	16	34	95
35 Other defined causes	381	24	6	7	34	28	61	102	119	11	81	207
36 Causes ill-defined or unknown	3	..	..	..	..	..	1	1	1	..	1	1
All Causes	4458	262	46	56	104	147	460	1237	2146	99	449	1801
Sub-entries included in above figures 18a Arterio-sclerosis	167	..	..	..	..	1	1	44	121	4	6	26
35a Poliomyelitis	..	..	..	..	..	..	..	..	..	..	..	..
Erysipelas	10	6	..	..	..	..	..	4	..	..	..	7
Rheumatic fever	32	..	..	..	11	7	8	4	2	..	..	20

1934.

Causes of death in registration sub-districts.

Cause of death	Deaths in districts at all ages.									
	All ages	Ashley	Bristol South	Bristol Central	Clifton	St. George	Stapleton	Westbury-on-Trym	Municipal Institutions (home unknown)	Port Cases
Certified	4,458	640	1,087	421	563	894	585	240	28	..
Uncertified	..	..	..	..	..	..	..	..	..	..
1 Typboid and paratyphoid fevers ..	..	..	..	..	..	..	..	..	..	..
2 Measles	12	..	7	3	..	..	2	..	..	..
3 Scarlet fever	1	..	..	..	..	1	..	..	..	..
4 Wbooping cougb	18	2	2	2	..	6	5	1	..	..
5 Diphtheria	16	3	3	2	5	1	2	..	..	..
6 Influenza	18	1	5	5	2	5	..	..	..	..
7 Encepbalitis letbargica	12	..	2	4	1	4	1	..	..	..
8 Cerebro spinal fever	14	1	3	4	2	2	..	2	..	..
9 Tuberculosis of respiratory system	301	29	87	30	34	55	38	26	2	..
10 Otber tuberculous diseases	52	8	13	6	7	8	6	4	..	..
11 Sypbilis	16	4	2	2	4	2	..	2	..	..
12 General paralysis insane, tabes dorsalis	14	1	6	2	1	..	4	..	..	..
13 Cancer, malignant disease	646	101	167	52	75	123	91	31	6	..
14 Diabetes	65	10	13	4	10	21	4	3	..	..
15 Cerebral baemorrhage, etc. ..	236	43	65	17	29	29	39	12	2	..
16 Heart disease	1,100	166	228	110	147	240	148	56	5	..
17 Aneurysm	20	3	4	3	4	3	1	2	..	..
18 Other circulatory diseases	187	27	38	22	25	52	15	6	2	..
19 Broncbitis	110	9	27	14	14	25	19	1	1	..
20 Pneumonia (all forms)	230	29	52	23	28	43	34	19	2	..
21 Otber respiratory diseases	88	10	24	10	10	18	14	..	2	..
22 Peptic ulcer	40	7	8	..	9	10	5	1	..	..
23 Diarrhoea, etc.	26	4	4	4	3	7	1	3	..	..
24 Appendicitis	29	7	3	3	5	6	2	3	..	..
25 Cirrbosis of liver	11	1	2	2	2	2	2	..	..	..
26 Otber diseases of liver, etc. ..	18	4	4	2	4	4	..	..	..	..
27 Otber digestive diseases	95	10	22	7	15	20	16	4	1	..
28 Acute and cbronic nephritis ..	167	18	51	18	17	39	19	4	1	..
29 Puerperal sepsis	8	3	2	1	..	1	1	..	..	..
30 Other puerperal canses	17	..	7	1	..	4	5	..	..	..
31 Congenital debility, premature birth, malformations, etc.	171	19	54	12	15	31	26	14	..	..
32 Senility	122	29	23	13	25	15	12	4	1	..
23 Suicide	59	10	19	3	7	12	5	3	..	..
34 Otber violence	155	25	41	12	20	22	24	8	3	..
35 Other defined causes	381	56	98	28	42	83	43	31	..	.
36 Causes ill-defined or unknown ..	3	..	1	..	1	..	1	..	..	..
All causes ..	4,458	640	1,087	421	563	894	585	240	28	..
Sub-entries included in above figures — 18a Arterio-sclerosis ..	167	25	33	20	25	44	13	5	2	..
35a Poliomyelitis	..	..	..	..	..	..	..	..	..	..
Erysipelas	10	..	3	2	2	1	..	2	..	..
Rheumatic fever ..	32	2	13	..	2	10	4	1	..	..
Deatbs of infants under 1	25	74	27	24	62	31	19	..	..	

III.—GENERAL PROVISION OF HEALTH SERVICES.

Officers.

The public health officers of the authority have been enumerated as whole-time and part-time officers on page v. of this report. All officers of the local authority hold the requisite certificates or qualifications required for their appointments.

Laboratory facilities.

Since the 1st October, 1933, all pathological, bacteriological, chemical and research work required by the Corporation has been carried out by the University at Canynge Hall in the department provided and maintained by them under the medical officer of health as professor of preventive medicine. The University provides for a qualified member of the staff of the department to visit the Corporation hospitals and dispensaries to consult and advise and to assist in investigating epidemics and cases of food poisoning. The public analyst took up his duties at Canynge Hall in August as senior officer of the chemical section.

Reports by Professor I. Walker Hall, M.D., the director, on the work of the preventive medicine laboratory for the city in 1934 and by Mr. F. E. Needs, F.I.C., the public analyst, will be found in section ix of this report.

Ambulance facilities.

Service by	Infectious cases.	Non-infectious cases
Health Committee	3,239	—
Public Assistance Committee ...	—	3,914
City and Marine Ambulance Corps	—	5,215
St. John's Ambulance Corps ...	—	8,175

There are no changes in the arrangements for the transport of infectious, non-infectious, accident and maternity cases to record.

Bristol is well served in the matter of ambulance facilities. Arrangements for the removal of infectious and maternity cases at all hours, are made through the public health office. Maternity cases are, by arrangement with the Public Assistance Committee, removed in ambulances owned by that committee. Non-infectious and accident cases are handled by the Bristol City and Marine Ambulance Corps, and by the St. John's Ambulance Corps, and both corps provide night and day service. During the past year these public ambulance services removed 20,543 cases to hospital.

Nursing in the home.

The arrangement for nursing the sick in their homes is provided in Bristol solely by private societies and institutions as detailed in

my report for 1930. Since August, 1931, the Health Committee has made grants of 25/- per case to the Bristol and Clifton District Nurses Society for nursing approved cases of tuberculosis in their own homes. During the year the society undertook the nursing of 37 cases making a total of 115 cases nursed since the arrangement began.

Clinics and treatment centres.

Clinics.	School medical	Maternity and child welfare.	Tuberculosis.	Venereal disease.	Others (voluntary)
General	6	—	1	—	5
Cardio-rheumatic ...	1	—	—	—	—
Orthopaedic ...	—	—	1	—	—
Artificial sunlight ...	—	1	1	—	—
Diphtheria immunisation ...	1	1	—	—	—
Ante-natal ...	—	10	—	—	—
Post-natal ...	—	1	—	—	—
Infant welfare ...	—	3	—	—	22
Mothercraft ...	—	1	—	—	—
Backward children	—	1	—	—	—
Venereal disease ...	—	—	—	1	—
Radium centre ...	—	—	—	—	1

In addition, there are out-patient and casualty departments attached to all the voluntary general hospitals.

The *school medical inspection clinics* provide for the treatment of minor ailments, ear, nose and throat diseases, zinc ionisation, dental treatment, refraction work, X-ray treatment, massage and electrical treatment and remedial exercises. The *maternity and child welfare clinics* provide, in addition to the main types of ante-natal and post-natal clinics, sessions for artificial sunlight radiation, lactation problems and for the backward child. Minor ailments, rickets, dental troubles and eye diseases in children under five years of age are referred to the Education Committee's school clinics.

Hospitals.

My report for 1930 contained a full list of hospitals (other than private hospitals) in the area, together with the type of case treated and accommodation available.

For the purpose of section 13 of the Local Government Act 1929, the Bristol Hospitals Council has been recognised by the Council, and this body is consulted on questions affecting hospital provision in Bristol. The Bristol Hospitals Council which was formed in 1929, includes the Lord Mayor, the Vice-Chancellor of the University (as chairman) and representatives of all voluntary hospitals as well as the Health and Public Assistance Committees. The medical officer of health is also a member ex-officio.

Hospital administration.

The administration of the Health Committee's institutions is centralised at the health department under the medical officer of

New Ward Pavilion.

Verandah of Ward Pavilion.

Single Bed Cubicle.

Double Bedded Cubicle.

health. To deal with the various matters arising at the hospitals, the following sub-committees of the Health Committee have been appointed, viz. :—

Financial expenditure is governed by the Health Committee acting as the accounts and contracts committee.

Questions affecting extensions, upkeep of buildings, plant, etc., are dealt with by the Public Health Institutions sub-committee.

Matters relating to staff and allied questions by the Staff sub-committee.

Recovery of cost of maintenance of patients admitted to hospital by the Assessment sub-committee.

All admissions of patients to any of the institutions are arranged through the medical officer of health to whom applications are made. A resident caretaker is on duty at the health department offices and a 24-hour service is given to the public.

Recovery of cost of maintenance.

Assessments are made by a special sub-committee of the Health Committee. Enquiries into circumstances of patients and their relatives are carried out by investigators who are on the staff of the Public Assistance Committee. Agreements under section 16 of the Local Government Act, 1929, have been entered into by the Health Committee with the medical charities committees of several large firms in the city, and an agreement has also been executed with the Bristol Medical Institutions Contributory Scheme. The need of a hospital almoner in connection with this work has been felt and is a matter which will be considered during the present year.

Municipal hospital development and extension.

During 1934 further extensions and developments of the existing municipal hospital service occurred.

(1) The replacement by permanent buildings of the temporary wooden buildings at Ham Green Sanatorium together with alterations to the existing blocks and a new nurses' home, marks the completion of the general sanatorium provision by bringing the total accommodation in Bristol to 365 beds for a population of 411,000 persons which is sufficient to supply the needs of the city in this direction. The new wards and alterations which were formally opened on the 11th July, 1934, by Sir Arthur Robinson, G.C.B., C.B.E., Secretary of the Ministry of Health, bring the total beds now available at Ham Green for sanatorium treatment of tuberculosis to a total of 160 beds for pulmonary and convalescent surgical adult patients of both sexes, including early and advanced types of the disease. In addition to these beds, further accommodation is provided at Frenchay Park Sanatorium (96 beds), Winsley Sanatorium (58 beds), Southmead Hospital (42 beds) and Cossham Hospital (9 beds).

The replacements at Ham Green consist of new buildings erected on the sites of the wooden huts which served as wards, one for men and the other for women. Each ward is planned to accommodate 36 patients—12 in single bed wards, 12 in two-bed wards

and 12 in six-bed wards, the last-named being intended for patients well enough to be up and about during the day-time, for whose use two day-rooms are also provided. The wards and day-rooms front upon verandahs by means of folding french doors, giving access to direct sunlight at all seasons of the year. The corridors and wards are warmed by ceiling panels formed of ray-rads. Each block is provided with two sanitary annexes and patients' clothes room ; a consulting room ; kitchen and the usual domestic offices. " P " block has in addition a small wing comprising an operating room for minor operations and a dental clinic. The existing Red Cross pavilion was altered to provide a service corridor with sanitary annexes, etc., an arrangement which admitted of an increase of four beds.

The designs for the new buildings were entrusted to Messrs. Oatley & Lawrence, architects, and the work was carried out under the supervision of G.C. Lawrence, Esq., R.W.A., F.R.I.B.A. The total cost of the whole replacement scheme amounted to £50,024, including £22,109 for the new nurses' home.

(2) The new theatre block extension at Southmead Hospital, which was completed for use in May, 1934, has been carried out in squared pennant stone rubble with Bath stone dressings to correspond with the existing buildings. The extension plans were drawn in the city estates department and the work carried out under the supervision of that department at a total cost of £3,875. The existing theatre block has been entirely remodelled and considerable additional accommodation provided.

The floors to the operating theatres are of reinforced construction finished with terrazzo paving having coved angle-skirting. All plaster work to walls and ceilings has been carried out in Keene's cement and finished with enamel paint. The premises are heated on both floors by means of a low pressure hot water system and wall radiators with panel heating to the new operating theatres. The electric lighting has been entirely renewed and modern lighting arrangements have been installed with separate and sufficient power plugs to supply the additional equipment.

The existing theatre was built as a war time emergency, but with the increase of surgery of a specialised type, it had proved inadequate to the growing need. With the object of providing an additional theatre and plaster room as economically as possible it was decided to extend the existing block, enlarging the anaesthetic room so that it should be common to both theatres, and using the existing sterilising room in a similar manner. It was also found possible to install a new electric lift from the ground floor, capable of taking two stretchers with attendants, and to provide a lavatory, shower bath and changing room for the surgeon's use.

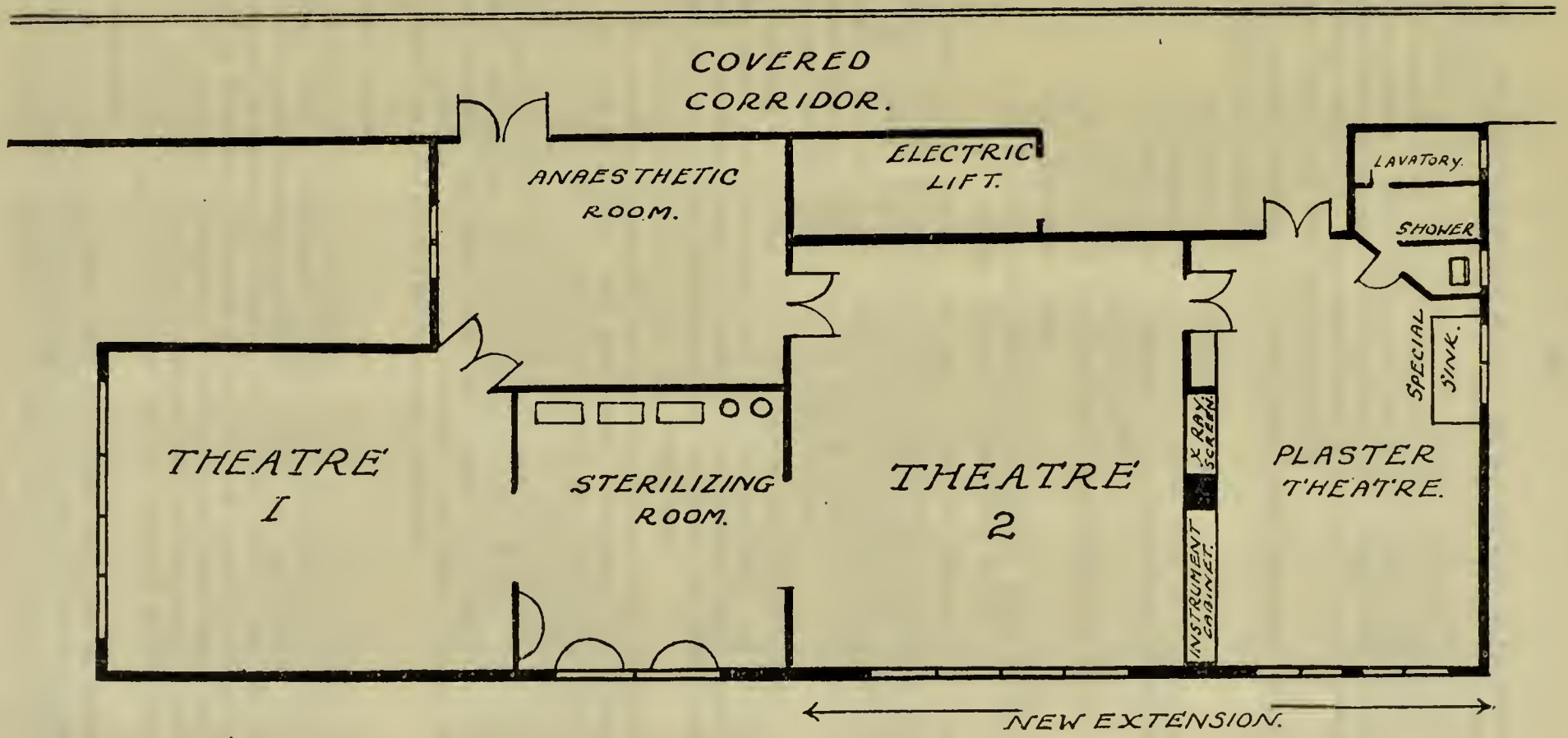
The sketch plan shows the relative positions of the various sections. These occupy the first floor whilst the ground floor now provides rooms for :—

(1) Electrical treatment.

(2) Massage and curative exercises.

(3) Artificial sunlight.

(4) X-ray and developing room.


COVERED
CORRIDOR.
ANAESTHETIC
ROOM.
ELECTRIC
LIFT.
LAVATORY.
SHOWER
SPECIAL
SINK.
THEATRE
1
STERILIZING
ROOM.
THEATRE
2
X RAY
SCREEN.
INSTRUMENT
CABINET.
PLASTER
THEATRE.
NEW EXTENSION.

The new theatre measures 16 ft. × 22 ft., the floor of terazzo is patterned in black-lined squares and in colour matches the green and white of the old theatre. The walls are decorated in pale green enamel which prevents glare, and makes an interesting and pleasant finish. There is panel heating in the walls on three sides, whilst beneath the large window and roof-light facing north, are two moveable radiators. The doors are of teak which in its natural colour blends well with the surroundings.

The theatre furniture is in white enamel with chromium fittings. The equipment includes :—

(1) Built-in instrument cupboard.

(2) Built-in X-ray viewing screen with all connections for electrical apparatus (e.g., diathermy) contained in a built-in cabinet below.

(3) Latest St. Bartholomew's type operating table.

(4) Shadowless lamp.

(5) Exhaust ventilating system which gives adequate air changes that can be regulated at will.

Plaster room. This is adjacent to the new theatre with easy access by double swing doors. The internal finish is similar to that of the theatre, whilst a Shropshire orthopaedic horse has been installed, together with a large plaster sink and metal cabinet for plaster bandages, etc. There is also a wide door way leading directly from this room to the covered corridor.

Sterilising room. The chief alteration to this room consists of a linen shute by which soiled linen may be removed to the laundry with a minimum amount of trouble. The sterilising plant is steam operated and provides two instrument sterilisers, one bowl steriliser, with apparatus for hot and cold sterile water.

The rooms on the ground floor are spacious and lofty, decorated in the same pale green, with teak doors. The floors are of wood blocks. In the room beneath the theatre artificial sunlight lamps have been fitted. These include mercury vapour lamps for local and general application and also a Kromayer lamp with suitable quartz applicators. An infra-red lamp is also in use. The large room beneath the plaster room and annexe is occupied by the X-ray apparatus. It has been darkened by box blinds which allow the windows to be opened for adequate ventilation.

Dental services.

Arising out of the establishment of the joint infant welfare and school clinic at Southmead Hospital, the co-ordination of medical services sub-committee approved in 1931 the appointment of a joint dental surgeon (H. Hazell, Esq., L.D.S., R.C.S. Eng.) to the staff at Southmead Hospital for dental work in all city hospitals, public assistance institutions, as well as in the joint dental clinic. This officer commenced duty in March 1932 and his report in so far as the hospitals and maternity service are concerned, will be found in section ix.

Prior to this arrangement the department employed no whole-time dentist, dental work at hospitals being attended to as required by private dental surgeons on a fee basis. Cases requiring attention

under the maternity and child welfare service were dealt with in the school dental clinics and the growth of this section is such that a proposal to appoint a whole time dental surgeon is now engaging attention.

Consultative staff.

Much has been done in recent years in the direction of co-ordinating the medical services of the city. Appointments to the consulting staffs of the city hospitals and sanatoria have been made from time to time with this object in view and the services of these officers, whose names and qualifications are listed on p. v, are in most instances available to all Corporation hospitals. Links have been established with the principal voluntary hospitals by appointing their orthopaedic surgeons to the consulting staff of the Corporation general hospital with responsibility for all orthopaedic and surgical cases admitted to Corporation hospitals. The same applies to the consultants in gynaecology and obstetrics, ophthalmology, ear, nose and throat diseases. More recently, the decision of the University to establish a whole-time chair of medicine has been associated with the Corporation medical services by appointing the first holder of this chair (Professor C. Bruce Perry, M.D., M.R.C.P. (Lond.)) as consulting physician to the Bristol Corporation with charge of the cardio-rheumatic section of the school medical service.

Hospital staff matters.

Questions affecting the conditions of service and welfare of the nursing and domestic staffs at institutions controlled by the Health Committee have been considered. These include uniforms, rates of pay, hours of duty and holidays, and have had for their object (1) standardisation of uniforms within the corporation service to facilitate with economy the interchange of hospital staffs transferring either for training or promotion, (2) equalisation of rates of pay for equivalent ranks and service, and (3) the standardisation of hours of duty and holidays.

Training of nurses.

The General Nursing Council has approved of all the Health Committee's hospitals as training schools for nurses. Southmead Hospital is approved for training for admission to the general part of the register and Ham Green isolation hospital for the supplementary part of the register for fever nurses.

The approval of the affiliation of Frenchay Park Sanatorium and orthopaedic hospital to Southmead for training purposes permits probationer nurses who are engaged at Frenchay Park for two years to complete their general training at Southmead Hospital. During the year permission was granted to the General Nursing Council to hold the oral and practical parts of the state examination (general and fever) at Southmead Hospital and Ham Green Hospital respectively.

Hospital stores.

In recent years the department has devoted considerable attention to the standardisation of hospital records, especially in connection with stores accounting. Every opportunity has been accepted to unify the books and forms. The results obtained from substituting

standard records for the different systems previously in force are proving of great value to the hospital service as a whole. At Ham Green and Southmead Hospital—institutions large enough to warrant the employment of accounting and storekeeping staffs—the results of the first complete years working of the new hospital accounts system proved strikingly successful. Stock record books were reduced to two loose leaf registers, one for receipts and issues and the other for invoices. The first-named contains pages specially printed for provisions, cleaning materials, earthenware and glass, bedding and linen, clothing and drapery, haberdashery, cutlery and light ironmongery, electrical equipment and tools. These pages correspond with the requisition books. Each page shows a complete balance of stocks in hand (brought forward, received and issued) during each week—or longer period where weekly issues are unnecessary—and these period-balances are translated to calendar month summaries which are forwarded to the city treasurer for completion by comptometers and subsequently conveyed to the ledgers. The possibility of error by delayed balancing of accounts, formerly a period of not less than three months, has been reduced to a minimum by the system, as its nature ensures that the work shall be kept closely up to date, and its accuracy is secured by regular detail-checking by the internal audit service.

Another branch of the hospital service which has received special attention is that relating to the quality of goods received under contract. The health department is fortunate in that it has always had at its disposal the services of statutory officers qualified to give authoritative opinions on the quality of meat, milk and food stuffs, together with chemical and bacteriological laboratories for analytical work. By special arrangement these officers and laboratories are now available to cover supplies delivered under contracts to all Corporation institutions.

Cooking and service arrangements.

Last year the Health Committee approved of the appointment of a home sister at their main isolation hospital specially trained in domestic science and housekeeping. The committee have decided to extend this policy of appointing a specially trained officer to the Southmead Municipal General Hospital.

Standardisation of drugs, dressings, etc.

With the revision of the form of contracts under the regulations adopted by the Council under the Local Government Act, 1933, opportunity was taken to standardise and simplify as far as possible the drugs, dressings and surgical sundries contracts. The drugs have now been revised to conform to the British pharmacopœia or British pharmaceutical codex standards and proprietary articles have been eliminated. The question of bulk purchasing is considered impracticable under present conditions and in the case of dressings, etc., it would mean a greatly increased cost to insist on the B.P. standard.

The contract schedules at present include a number of special formulæ, and as we have no central dispensary it is difficult to effect full economies in the supply and dispensing of drugs, dressings, etc. There is no doubt that more can be done in this direction

when a central dispensary exists and the various hospitals and clinics supplied therefrom.

The formulation of a local pharmacopœia for the city hospitals is also under consideration.

The reports of the medical superintendents of the municipal hospitals for 1934 will be found in section ix. The following table gives an idea of the work of the voluntary hospitals :—

Hospital.	Total no. of beds.	Average no. occupied	No. of in-patients	No. of out-patients
Bristol Royal Infirmary ...	426	355	9,328	69,492
Bristol General Hospital ...	273	258.09	5,126	37,411
Bristol Royal Hospital for sick children and women ...	80–85*	74.4	1,290	5,081
Cossham Memorial Hospital	90	61	1,285	1,681
Bristol Homoeopathic Hospital	78	63.5	1,375	18,213
Bristol Eye Hospital ...	45	36.8	825	14,226
Bristol Maternity Hospital and Temporary Home ...	32	16.5	309	—
Walker Dunbar Private Hospital for women and children	32	20	234	3,044

* Some wards temporarily out of use owing to rebuilding operations.

Local Government Act, 1929.

My report for 1930 detailed the services transferred under the provisions of the Local Government Act and delegated to the Health Committee under the administrative scheme approved by the Council. Amendments of the scheme as approved by the Ministry of Health since 1930 are referred to in the introduction to this report.

Poor law medical out-relief.

There has been no change in regard to the policy of medical out-relief, which is under the Public Assistance Committee, since its transfer to the Council. The city is divided into nine relief and medical districts with the medical staff under the general direction of the medical officer of health. Cases requiring hospital treatment are admitted to Southmead Hospital.

Mental deficiency.

The following classes of persons who are mentally defective come within the Mental Deficiency Acts 1913/1927 or the Mental Treatment Act, 1930—idiots, imbeciles, feeble-minded persons and moral imbeciles as defined by the Act of 1927. It is the duty of the local authority to provide supervision by way of care or training or for their emplacement under guardianship or in an institution. By the Local Government Act 1929 the committee acting under these Acts has exclusive control of mental defectives but in Bristol the Council has, after specially considering the desirability of merging the work, delegated the care of mental defectives to three committees, i.e., the Mental Hospital Committee, the Mental Deficiency

Committee and the Public Assistance Committee, with a joint committee composed of representatives of the three committees to ensure effective co-operation and remove difficulties.

Institutional provision for the care of mental defectives.

Full details of the work of the local authority in connection with the care of mental defectives were given in my report for 1930. Changes and developments which have occurred in this service are referred to in the appended reports by the supervising officer for mental deficiency (Mr. W. E. Price) and by the medical superintendent of Hortham Colony (Dr. W. Wyatt).

Report by Mr. W. E. Price, Supervising Officer.

Summary of cases dealt with by the Mental Deficiency Acts Committee.

	1st January, 1935.	1st January, 1934.
Institutions ...	525	497
Supervision ...	753	764
Guardianship ...	51	49
Pending ...	12	8
	1,341	1,318

Cases in institutions.

	Males	Females	Licence M.	Licence F.	Total
Hortham Colony ...	179	151	13	19	362
Stapleton	50	52	1	3	106
Chasefield	—	3	—	—	3
Hermitage	—	2	—	—	2
Stoke Park Colony	1	5	—	—	6
Eagle House ...	—	—	—	1	1
St. Mary's Home	—	1	—	—	1
Besford Court ...	3	—	1	—	4
Dovecot	—	1	—	—	1
Rampton	8	9	—	1	18
Royal Fort Home...	—	12	—	3	15
Royal Hostel ...	1	—	—	—	1
Pield Heath House	—	1	—	—	1
Old Rectory ...	—	3	—	—	3
Starcross ...	—	—	1	—	1
1st January, 1935	242	240	16	27	525
1st January, 1934	233	231	9	24	497

Has the peak of ascertainment of cases of mental defectives been reached in Bristol? The following list appears to show this :—

1930	...	...	102
1931	...	...	118
1932	...	...	121
1933	...	...	92
1934	...	...	82

The cases ascertained during the year have been dealt with in the following manner :—24 were sent to institutions, two were placed under guardianship and 56 placed under supervision in their own homes.

In 1933, 28 cases were sent to institutions, two placed under guardianship, and 62 remained in their own homes under supervision.

I am glad to be able to say that during this year leave of absence on licence for trial outside institutions has been granted in 65 cases as against a total of 45 cases for last year ; of these there were 10 failures as compared with six. The change from the sheltered care of an institution to something so different comes as a shock to a patient detained for many years, and this in itself may call for several trials before the patient may be said to be safely adapted to other than institution care. The success or otherwise of a training institution under this Act should show itself by the number of cases on licence, a successful institution should show a fair proporton of cases returned to some sort of social responsibility and is a return for the public expenditure. In licence cases, understanding, consideration, and a sympathetic approach, by the home visitors are of the utmost importance. A visiting officer has, generally, a greater influence on a defective than the person having charge of him. It can be readily understood that difficulties do arise, and can be many and varied.

Cases notified by the local Education Authority during the year number 51. Of these 11 were sent to institutions, one placed under guardianship, and 39 remain in their own homes under supervision.

Of the institution population there have been only four deaths during the year, three males and one female. Last year there were eight deaths.

Among all cases known to the committee, there have been five marriages, three males and two females. Four children have been born to married defectives and there have been no illegitimate births.

The work of the *Occupation Centres* has been carried on as usual but there has been a marked increase in the number of attendees at the juvenile centre and also at the adult male centre. The Bedminster occupation centre is at present being run by the staff of the Redfield centre as a temporary arrangement.

Bearing in mind that occupation centres have, as a main object, the training of defectives to be able to live somewhat usefully in their own homes, it is satisfactory to find that with the introduction of garment repairing for male patients at Park Row, the course of training for males becomes complete. Similarly, with the completion of the scheme now being considered for females, it may be that the question of training of defective in occupation centres is established and complete as far as Bristol is concerned.

Particulars of the centres are as follows :—

Centre	Trainees			Sessions
	Type	No. 1933	No. 1934	
Redfield Industrial	Adult females	19	20	Tuesday, Wednesday, Thursday and Friday from 2 to 4 p.m.
Bedminster Industrial	Adult females	8	8	Monday, Wednesday and Thursday from 2 to 4 p.m.
Park Row. Industrial	Adult males	40	49	Daily except Saturday, 10 a.m. to 4 p.m.
Juvenile	Low grade children and a few adult females.	18	30	Daily except Saturday, 9.30 a.m. to 3.45 p.m.

Hortham Colony.

Report by Dr. W. Wyatt, Medical Superintendent.

1933	Statistics at 31st December, 1934	M.	F.	T.
504	Number of patients in residence ...	285	267	552
24	,, ,, on licence ...	24	26	50
9	,, ,, on leave, etc.	1	3	4
—	,, ,, on books ...	—	—	—
537	Totals	310	296	606

Local Authorities responsible for cases admitted :—

Bristol	363
Bath	32
Dorset	128
Cardiff	28
Lincoln	3
Wilts	3
Monmouth	1
Warwick	4
Hereford	2
Glamorgan	9
Kent	6
Brecknock	1
Northants	1
Flint	2
Oxford	3
Croydon	1
Swansea	5
Notts	9
Merthyr	1
Worcester	2
Reading	1
Surrey	1
	606

Health education.

During the year the public health staff continued to give health lectures and demonstrations on problems dealing with public health to social, religious and political organisations, and meetings were addressed in addition to the usual lectures at the mothers' schools, clinics, etc. In every possible way due prominence was given to constructive health work and preventive measures necessary to combat disease, in order to improve the general standard of health of the people.

During the year the Health Committee co-operated with the British Social Hygiene Council and the management of the Bristol Hippodrome in the showing of the health educational dramatic talking picture "Damaged Lives" for two weeks commencing February 26th. The department secured the interest of the principal industrial firms, social organisations, clubs, etc., which co-operated by displaying posters and distributing handbills and also made the picture widely known in the homes through the medium of its health visiting staff, clinics, etc. The general publicity given to the value of the picture from the health educational standpoint was no doubt a contributing factor to the large attendance at the cinema during the display of the picture and it is hoped the results from the clinical standpoint will prove equally satisfactory.

At the suggestion of the Ministry of Health the Health Committee acquired from the 30th November eight advertising hoardings in different parts of the city which have for some years been used by the Empire Marketing Board. These frames are now used for purposes of health propaganda. Sets of posters designed by the Central Council for Health Education on questions relating to health or disease have been published.

Health Congress of the Royal Sanitary Institute.

The 45th congress of the Royal Sanitary Institute was held at the Bristol University from July 9th—14th, 1934, and was attended by a large number of delegates to whom hospitality was extended by the civic authority and the university. Full reports have been published by the Royal Sanitary Institute on the proceedings of the congress.

Exhibition of cripples' work.

The third international exhibition of cripples' handcrafts was held at the Colston Hall, Bristol, on October 10th—12th. Promoted under the auspices of the Central Council for the Care of Cripples, it was organised by a local committee composed of representatives of Frenchay Park Sanatorium, Winford Orthopaedic hospital, the Crippled Children's Society, the Bristol Guild of the Handicapped and the Bristol Rotary Club.

Shops Act, 1934.

The new Shops Act of 1934 which came into operation on 30th December, 1934, has considerably increased the duties imposed

on the local authority, and there are now three classes of duties for the local authority.

1. Regulations governing times when shops may be opened, times when shops must be closed, half-holidays and meal times for all employees.
2. More special regulations concerning employment of young persons and special circumstances in which these regulations concerning young persons may be varied. Register of hours of employment of young persons to be kept.
3. As regards sanitary accommodation, etc. (viz., ventilation, temperature, sanitary conveniences, lighting, sufficient washing facilities, meals in shop, etc. (section 10).

Up to the present time the following Acts have been delegated to the Watch Committee, viz., Shops Acts of 1912, 1913 and 1928, and the Barbers' Sunday Closing Act, 1930, but as the duties of the local authority as a sanitary authority are greatly increased under the 1934 Act it is proposed to transfer to the Health Committee the whole of the duties of the Council under the Shops Acts 1912/1934.

It has been decided to carry out these duties when transferred to the health department by the appointment of two assistant shops acts inspectors who will work under the supervision of the chief shops acts inspector. It is estimated that there are approximately 10,000 to 15,000 shops in the city which are affected by the Shops Act, 1934. The sanitary inspector will be of great assistance in revealing cases and being in close contact with the shops he can obtain information which could be handed over for further detailed investigation by the shops act inspectors. He will be of course entirely responsible for the part of the Act dealing with sanitation, heating, lighting and ventilation, etc. This is the work for which his training makes him especially suitable.

IV.—MATERNITY AND CHILD WELFARE.

	Rate per 1,000 population.		Rate per 1,000 total births.			Rate per 1,000 live births.			
	Live births	Still births	Still-births	Puer-peral sepsis	All mater-nal causes	Puer-peral sepsis	All mater-nal causes	Infants deaths (under 1 year)	Diarrhoea deaths (under 2 years)
Bristol	13.9	.63	43	1.34	4.19	1.40	4.38	46	2.98
England and Wales	14.8	.62	40	1.95	4.41	2.03	4.60	59	5.5

Observations on the statistics relating to live births and still-births will be found in the section of this report dealing with vital statistics. The year under review was noteworthy for the generally favourable statistics relating to maternity and child welfare. Compared with the previous year, the birth rate is up (.26 per 1,000 population) ; the stillbirth rate is down (.01 per 1,000 population and 1 per 1,000 total births) ; the maternal mortality rate is down (.25 per 1,000 total births and .09 per 1,000 live births), maternal deaths from puerperal sepsis declined by .37 per 1,000 total births and .57 per 1,000 live births ; infant deaths under one year fell by 9.0 per 1,000 live births and deaths from diarrhoea and enteritis under two years were 2.2 per 1,000 live births less than in the previous year. With the exception of the birth rates, these figures constitute in varying degrees improvement on national rates for the same period.

Infant mortality.

During the year the deaths of 262 infants under one year were recorded in Bristol, 45 less than the net deaths registered in 1933. The figure gives an infant mortality rate of 45.9 per 1,000 live births, the lowest infantile mortality rate recorded in Bristol, being 4.9 per 1,000 below the previous low record in 1931 (50.8) and 15 per 1,000 below that for the quinquennium 1926/1930 (61).

The rate for England and Wales was 59 per 1,000 live births and 63 for all county boroughs, both low records, the previous lowest being those recorded for 1930 when the corresponding figures were 60 and 64 respectively.

While fluctuations from year to year are inevitable in a rate so sensitive as the infant mortality rate, it is a matter for congratulation that Bristol, as a large industrial centre, consistently maintains so satisfactory a position as regards this rate compared with the rest of the country (see table on p. 22).

The principal causes of infant deaths in order of numerical importance were prematurity (73). congenital malformations (35), pneumonia (32) atrophy, debility and marasmus (23), atelectasis (18), diarrhoea and enteritis (14), whooping cough (11), and meningitis (10).

The group of diseases covered by such causes as prematurity, malformations and injury at birth accounted for 56.8 per cent. of the total infant deaths, followed by respiratory diseases, 13.7 per.

cent., infectious diseases, 6.4 per cent. and diarrhoea and enteritis, which up to 1915 occupied a high position amongst causes of infant mortality, 5.7 per cent., a decline of 2.8 per cent. over the figure for 1933 in spite of the hot weather experienced last summer.

As in previous years, more than one half (60 per cent.) of the deaths of infants occurred under one month— a *neo-natal mortality rate* of 27.7 per 1,000 births compared with 30.4 last year. Of these deaths in the first month, 30 per cent occurred on the first day of life and 31 per cent. in the first week. Approximately 77 per cent. of the neo-natal deaths were due to prematurity and other congenital defects.

Death rate of illegitimate infants.

Of the 205 illegitimate births registered during the year, 18 or 8.8 per cent. died before reaching the age of one year, compared with the 7.8 per cent. last year. These deaths represent an illegitimate infant mortality rate of 95.7, an increase of 8.1 over the rate last year. The legitimate rate per 1,000 legitimate births was 44.2.

Maternal mortality.

During the year 25 Bristol mothers died from causes directly connected with child birth, one less than in 1933, giving a maternal mortality rate of 4.19 per 1,000 total births. Eight of the deaths, representing 1.34 per 1,000 total births, were due to puerperal infections. The corresponding figures for England and Wales were 4.41 and 1.95. The actual causes of all the deaths are shown in the table on p. 49 with age groups and the number which occurred in institutions.

Investigations continue to be made into these maternal deaths by medical officers of the maternity and child welfare section and the results of their enquiries are forwarded to the Ministry of Health.

Notifications of puerperal fever and puerperal pyrexia.

	Attack rates per 1,000 births.	
	Puerperal fever.	Puerperal pyrexia
Bristol	.84	7.0
England and Wales ...	4.0	9.6

Five cases of puerperal fever and 41 of puerperal pyrexia were notified during the year compared with 50 last year. This figure gives a combined attack rate of 7.8 per 1,000 total births. There were eight deaths from puerperal sepsis, as against ten last year. Twenty of the cases developed in hospital and nine were removed there after confinement at home. All were isolated cases, there being no instance of one case having any connection with another in a nursing home or institution.

The attack rates per 1,000 total births for these diseases compare very favourably with the corresponding rates for England and Wales, being 3.16 below the national rate for puerperal fever and for puerperal pyrexia 2.0 below the national rate.

Notifications of ophthalmia neonatorum.

There were 35 cases of ophthalmia neonatorum notified, exactly the same number as reported last year. This is equivalent

to an attack rate of 5.8 per 1,000 live births. All cases recovered without impairment of vision or injury to eye whatsoever, although only five cases received hospital treatment. This is a tribute to the effective home supervision of such cases by the health visitors, who also dealt in a similar manner with 288 less serious eye cases.

Maternity and child welfare scheme.

The Council has delegated its powers under the Maternity and Child Welfare Act to the Health Committee. This committee, acting as the maternity and child welfare committee, is responsible for the local services.

There has been no change in the local scheme which remains, as previously reported, one of partnership between municipal and voluntary enterprise. The Bristol Infant Welfare Association co-ordinates the work of the voluntary associations providing maternity and child welfare services with those organised and maintained by the local authority. The scheme approved under the Local Government Act, 1929, secures the payment of grants towards the expenses of these voluntary associations during the fixed grant period ending 31st March, 1937, amounting to £6,146 14s. 1d. per annum, subject to such services being maintained efficiently to the satisfaction of the Council. The schedule of grants provides for the payment annually of £2,536 13s. 7d. towards the expenses of four homes for mothers or babies; £925 2s. 5d. to two day nurseries; £1,574 19s. 3d. to the Bristol Infant Welfare Association, and £1,109 19s. 4d. to 20 voluntary infant welfare centres.

The maternity committee has provided all the facilities set out in memorandum 156/M.C.W. with the exception of home helps, a scheme for which has not been adopted in this city.

Altogether there are ten municipal ante-natal clinics, where expectant mothers may obtain advice, both medical and social. Arrangements have been made for the systematic following up of patients attending the clinic. The women are also advised to attend for examination after confinement.

The services of consultants in cases of difficult labour and puerperal fever are at the disposal of any doctor when required, and an arrangement has been made with the Bristol General Hospital for the admission of cases of complicated labour, if necessary.

Arrangements have been made for the pathological examination in the department of preventive medicine of material submitted by doctors.

There is adequate provision for patients needing institutional treatment on medical grounds, and also on account of unsatisfactory home conditions. The maternity department at the Southmead municipal hospital has been considerably developed in recent years.

In addition to the work of midwives in private practice, confinements are taken by the extern staffs attached to the Bristol Royal Infirmary, Bristol General Hospital and Southmead Hospital. This gives an adequate supply of district midwives.

Sterilised maternity outfits are supplied to patients at cost price, and milk is supplied to necessitous expectant and nursing mothers on the recommendation of the medical officer of a clinic or infant welfare centre.

I append a report by Dr. Marguerite G. Hughes, M.B., Ch.B., on the work of the maternity and child welfare section in 1934.

1934.

INFANT MORTALITY.

Deaths from stated causes under ONE year.

Total 1933	CAUSE OF DEATH	Under 1 Day	Under 1 Week	1-2 Weeks	2-3 Weeks	3-4 Weeks	Total under one month	1-2 Months	2-3 Months	3-4 Months	4-5 Months	5-6 Months	6-7 Months	7-8 Months	8-9 Months	9-10 Months	10- Months	11-12 Months	Total 1934	Deaths in Quarters			
																				1st	2nd	3rd	4th
...	Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Chicken-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
1	Measles	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	...	1	1	...	...	...
...	Scarlet fever ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
10	Whooping cough ...	...	...	...	...	2	2	1	1	1	1	...	...	1	...	2	...	1	11	2	6	3	...
...	Diphtheria and croup	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Erysipelas	...	...	...	...	1	1	3	...	...	...	1	...	...	...	...	...	...	5	4	...	...	1
6	Tuberculous meningitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	1	2	...	1	1	...
...	Abdominal tuberculosis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
...	Other tuberculous diseases	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
6	Meningitis (not tuberculous)	...	...	...	...	1	1	3	...	...	...	...	3	2	...	1	...	1	10	5	2	1	2
5	Convulsions ...	...	4	2	...	1	7	...	1	...	...	...	...	...	...	...	...	1	9	4	3	1	1
..	Laryngitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
3	Bronchitis	...	...	...	...	...	...	1	...	...	...	...	1	...	...	...	...	...	2	1	1	...	...
52	Pneumonia (all forms)	...	3	2	1	2	8	1	3	2	1	3	4	1	1	5	...	3	32	11	12	3	6
3	Influenza	...	...	...	1	...	1	...	...	...	...	...	1	...	...	...	...	...	2	2	...	...	...
2	Diarrhoea	...	...	...	...	...	...	...	1	...	...	...	...	...	...	...	...	...	1	...	1	...	...
24	Enteritis	...	...	...	2	...	2	3	...	2	...	...	1	...	2	3	...	...	13	3	2	1	7
1	Gastritis	...	...	...	...	1	1	...	...	...	...	...	...	...	...	1	...	...	2	...	1	1	...
3	Syphilis	...	...	...	...	1	1	1	1	...	...	...	...	...	...	...	1	1	5	4	1	...	...
...	Rickets	...	...	...	...	...	...	...	...	...	...	...	...	...	1	...	...	...	1	...	1	...	...
...	Found dead ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
2	Suffocation, overlaying	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
14	Injury at birth ...	3	3	...	...	...	6	...	...	...	...	...	...	...	...	...	...	...	6	1	3	...	2
8	Atelectasis	9	3	4	1	...	17	...	...	1	...	...	...	...	...	...	...	...	18	6	3	6	3
34	Congenital malformations	4	6	6	4	1	21	9	1	1	...	...	...	1	...	2	...	...	35	9	5	10	11
110	Premature birth ...	28	26	12	5	1	72	...	...	...	...	...	1	...	...	...	...	...	73	21	21	17	14
9	Atrophy, debility & marasmus	2	3	4	2	1	12	6	2	1	...	...	...	...	2	...	...	...	23	7	6	5	5
12	Other causes	2	1	1	1	1	6	1	1	...	...	1	...	...	1	...	...	1	11	5	1	2	3
307	Totals	48	49	31	17	13	158	30	11	8	2	5	11	5	7	15	1	9	262	86	70	51	55

MATERNAL MORTALITY.

Total 1933	Cause of death	Total 1934	Age groups: 15 and under 25	25 and under 45	45 and under 65	Deaths in institutions	Deaths in districts: Ashley	South	Central	Clifton	St. George	Stapleton	Westbury-on-Tryn
5	Puerperal sepsis ...	3	1	2	...	3	...	1	1	...	1	...	...
5	Septic abortion ...	4	1	3	...	2	2	1	...	...	...	1	...
...	Other puerperal causes	...	...	...	...	...	...	...	...	...	...	...	...
3	Placenta praevia ...	2	...	2	...	2	...	2	...	...	...	...	...
2	Post-partum haemorrhage ...	3	...	3	...	1	...	1	...	...	1	1	...
3	Obstetric shock ...	1	...	1	...	1	...	...	...	...	1	...	...
1	Do. Caesarean section	...	...	...	...	...	...	...	...	...	...	...	...
...	Ruptured uterus ...	...	...	...	...	...	...	...	...	...	...	...	...
3	Embolism	4	...	4	...	3	1	1	...	...	...	2	...
...	Ruptured ectopic gestation	...	...	...	...	...	...	...	...	...	...	...	...
...	Intestinal obstruction	1	...	1	...	1	...	1	...	...	...	...	...
4	Puerperal toxaemia ...	7	2	5	...	6	...	2	1	...	2	2	...
26	Total ...	25	4	21	...	19	3	9	2	...	5	6	...

RATES.

Infant Mortality	Males	Females	Total	Rate per 1,000 births.
Legitimate ...	146	98	244	44.2
Illegitimate	12	6	18	95.7
Total	158	104	262	45.9

Maternal Mortality.	No.	Rate per 1,000 total births
Puerperal sepsis ...	8	1.34
Other puerperal causes	17	2.85
Total... ...	25	4.19

Maternity and Child Welfare Services.

Report by Marguerite G. Hughes, M.B., Ch.B., Assistant Medical Officer of Health.

1933	Statistics	1934
140	Midwives giving notice of practice	144
3	Bone-fide midwives registered	1
50	Midwives in private practice	49
90	Midwives attached to institutions	94
973	C.M.B. Forms A—medical help	1,016
21	B—death	14
86	C—stillbirth	69
10	D—laying out the dead ...	11
35	E—liability of infection... ...	42
58	F—artificial feeding	64
11	Midwives' claims for compensation	10
267	Fees claimed by medical practitioners	265
123	Maternity beds available	123
	Notifications—	
5,863	Live births	5,982
287	Stillbirths	266
43.07	Percentage of confinements in institutions	46.1
20.3	,, ,, attended by doctors	12.3
36.6	,, ,, ,, midwives	41.6
5	Puerperal fever notifications	5
45	Puerperal pyrexia do.	46
35	Ophthalmia neonatorum notifications ...	35
	Forms of confinement assistance granted—	
763	Maternity beds	936
119	Midwife's fee	143
63	Southmead Hospital district nurse ...	104
28	Consultant obstetrician	12
3,584	Milk grants	2,990
13,716	Attendances at municipal ante-natal clinics ...	15,224
2,663	New patients	2,947
21.3	Average per session	23.3
63,801	Attendances at infant welfare centres	59,412
31,039	Children under one year	23,848
32,762	Children between one and five years ...	35,564
4,275	Attendances at artificial sunlight clinic ...	4,408
3,973	,, mothercraft clinic	4,415
443	,, minor ailment clinics	530
2,625	,, dental clinics	2,846
134,700	Home visits by health visitors	137,109

Midwifery and maternity services.

The midwifery and maternity services in Bristol remain very much the same as in the previous year. The number of practising midwives increased by four to a total of 144, of whom 94 were attached to institutions. With one exception, the whole of the midwives in practice are certificated, there now being only one bona-fide midwife working. The number of district midwives in Bristol is considered to be sufficient. As in previous years each midwife was visited at her house at least four times, when the usual inspection of register, bags, etc., was carried out. It has been found necessary to report the conduct of one midwife, and the case is now awaiting hearing by the Central Midwives Board.

It is to be noted that the midwives continue to take full advantage of the arrangements for sending for medical help at confinement. The causes for sending for medical help are indicated below :—

1933	Condition	1934
4	Threatened abortion	5
7	Abortion	8
13	Albuminuria	18
15	Prematurity	12
33	Ante-partum haemorrhage	32
111	Delayed labour	120
19	Complicated labour	46
254	Ruptured perineum	300
16	Adherent placenta	7
21	Post-partum haemorrhage	19
44	Raised temperature	35
20	Feebleness of child	41
202	Discharging eyes...	212
10	Rash	3
204	Other causes	158
973	Total ...	1,016

The claims from medical practitioners for attendance at confinement are practically the same as in 1933.

It was necessary to compensate a midwife for loss of practice owing to an outbreak of puerperal fever, while nine claims for compensation were received for loss of cases referred to an institution on account of some abnormality.

It will be observed that there was a large increase in the number of applications for admission to maternity hospitals for confinement, and of these applications no less than 895 were for admission to Southmead Hospital, of whom 727 were actually admitted during the year. The number of confinements in institutions has increased from 2,649 in 1933 to 2,883 in 1934, the percentage of births in institutions being 46.1 of total births during the year. This large increase in births in institutions raises the question of the future of the district midwives, and also the question of the scheme for training pupil midwives at Southmead Hospital. Under the regulations of the Central Midwives Board, a pupil midwife must, as part of her training, attend a certain number of women in their own homes, and it is obvious that if the number of admissions to institutions for confinement increase at the present rate, it will be extremely difficult for these pupils to receive the necessary training on the district.

The number of cases of complicated labour, puerperal fever and pyrexia referred to consultants under the scheme for medical assistance, dropped from 28 to 12 during the year. Arrangements were made for nursing of one patient in her own home.

Ante-natal and post-natal work.

There has been no increase in the number of ante-natal and post-natal clinics during the year, but it will be noted that there was a larger number of patients attending these clinics as compared with the previous year. There has also been an increase in the number of applications towards payment of midwives' fees at

confinement. Other applications for assistance include the selling of sterilised maternity outfits at cost price, and loaning of maternity bags in necessitous cases. During the year 2,990 milk grants have been made, to expectant mothers, 470 ; nursing mothers, 946 ; children under 3 years, 1,497, and children between 3 and 5 years, 77, at a total cost of £1,351 12s. 1d.

Clinics and treatment centres.

There has been no increase in the number of infant clinics and treatment centres during the year, either municipal or voluntary, and although the total number of attendances of children under one year is lower, yet the number of children attending the clinics has increased. The number of attendances at the artificial sunlight clinic and at the mothercraft (infant feeding) clinic, has increased, as also has the number of minor ailments referred to the Education Committee for treatment at the school clinics.

The number of children under five years of age referred to the school clinics for crippling defects (rickets, etc.) amounted to 77, and of these, seventeen have been admitted to hospital for treatment.

Dental treatment for expectant and nursing mothers and children up to the age of five years continues to be carried out at the school clinics and at Southmead Hospital. The cost of this service (including £345 9s. 6d. for dentures) amounted to £797 7s. 0d. At the present time it is not possible to deal with a number of children under five years of age requiring treatment owing to lack of staff, but it is hoped that by the appointment of another full-time dentist, which has been sanctioned by the committee, this may be improved.

During the year, 110 children were immunised against diphtheria at 7, Brunswick Square. This work is now being carried out at the school clinic, Portland Square, and at the outlying infant welfare centres.

The number of health visitors remains the same as in the previous year. The total number of visits paid by them was increased by 2,409 to 137, 109.

Six students entered for the training course, and with one exception they were successful in passing the examination for the diploma of the Royal Sanitary Institute.

Infant life protection.

There has been a decrease in the number of children in the care of foster-parents, the number under supervision at the end of the year being 193.

Notification of Births Act, 1915.

There was an increase of 98 in the number of births notified, the total being 6,248, including 266 stillbirths. The sex of the cases was—males, 3,079 living, 151 dead ; females, 2,903 living, 115 dead. Nearly one-half of these confinements (46.1 per cent.) took place in institutions while only 12.3 per cent. were attended by doctors and 41.6 per cent. by midwives.

Nursing Home Registration Act, 1927.

Four new applications for registration were approved during the year, and two homes have been closed owing to the death of the matrons.

Maintenance of destitute children.

By resolution of the Council, the supervision of the children over five years of age in the Downend and scattered homes, and of boarded-out children, was, as from the 1st October, 1934, transferred back to the Public Assistance Committee, the staff employed on that work being transferred also. At the same time the Council, with the consent of the Minister of Health, appropriated certain houses at the Crescent, Downend, for the reception and maintenance of infants under five years. The scheme approved provides for the accommodation of 40 infants under three years, and 25 between three and five years of age. It is proposed that the home shall also provide for the training of suitable girls as nursery nurses, and for this purpose it has become affiliated to the National Society of Day Nurseries. It is suggested that part of the training of these girls shall eventually be carried out at nursery schools and classes in conjunction with the Education Committee.

It is also suggested that arrangements shall be made for any of these girls to receive general training at the municipal hospitals, if so desired.

The medical supervision of all children in the Downend Homes, including those over five years of age, continues to be carried out by the medical officers of the maternity and child welfare section.

The number of children under supervision in the Babies Home on the 31st December, 1934, was 30 under three years, and 16 between three and five years of age.

Unmarried mothers.

Report by Mrs. N. H. Stott, Welfare Officer to the Public Assistance and Health Committees.

1933	Cases assisted	1934
135	Applications received	127
12	Remaining over from last year	17
77	Admitted to Southmead Hospital	68
12	Confined at mother and baby homes	22
36	Other assistance given in confinement or not needed	31
1	Transferred to another area	1
4	Applications withdrawn	5
17	Arrangements not completed	17

During the year, 127 *applications from unmarried mothers* or in respect of an illegitimate child were received.

104 were in respect of a 1st child
17 ,, ,, 2nd ,,
3 ,, ,, 3rd ,,
3 ,, ,, 4th ,,

In several instances, other than in respect of a first illegitimate child, the parties were co-habiting. A large number of the applicants were young girls, 22 were only 18 years of age or under.

In addition to these 127 cases in 1934, there were 17 who had already made application but for whom arrangements had not been made, making a total of 144.

The number of young girls who have accepted the help offered by admission to mother and baby homes has been gratifying.

In all, 72 girls were placed in homes during the year :—

27 at the Diocesan Refuge or Elm House temporary home for various periods, before admission to Southmead Hospital or a mother and baby home or for temporary help as when waiting for a situation ;
26 to mother and baby homes ;
6 to mother and baby hostel at Diocesan Refuge ;
6 mothers and babies to Elm House temporarily ;
7 to other homes.

During the year 199 *affiliation cases* were dealt with including 49 cases incomplete and brought forward from 31st December, 1933, and 23 Salvation Army private cases. The results of enquiries made into these cases are analysed below :—

30 affiliation orders ;
1 application for affiliation order dismissed at court ;
43 agreements ;
4 not entitled to summons (married women) ;
9 married to putative father ;
2 mother died ;
8 abortion, still-birth or child died ;
19 no corroboration ;
5 putative father not known ;
5 putative father not traced ;
1 putative father died ;
5 returned to live with putative father ;
6 removed to another area ;
5 application withdrawn ;
1 refused to give information ;
4 refused to take proceedings ;
48 incomplete ;
3 imcomplete (summons not served).

In the majority of cases where agreements are arranged there is a possibility of marriage between the parties, or the putative father is a married man. In some instances, the agreement has been for confinement expenses when the child was stillborn.

There has been a great increase in the amount of work for deserted wives, or wives complaining of persistent cruelty. In 38 married women's cases, maintenance or separation orders have been obtained ; three have been assisted to obtain an increase on an existing order, and in two cases the order was reduced.

The sum of £4,359 15s. 11d. has been received and dealt with as follows :

£206 8s. 6d. paid to the city treasurer in respect of maintenance of babies born at Southmead Hospital or mother and baby homes ; £1,450 7s. 9d. to the collecting officer, Public Assistance Committee, being money paid at court or privately under separation of maintenance orders, affiliation orders and agreements for people receiving help in various ways from the Public Assistance Committee ; and £2,702 19s. 8d. to mothers and foster mothers of illegitimate children, being money received through court on affiliation orders, etc. In cases where there is no affiliation order and the mother is unable to earn sufficient to wholly support the child, 15 babies have been placed in homes where the mothers' payments vary from 1/- to 7/6 weekly according to ability to pay, and five mothers have received weekly grants.

V.—SANITARY CIRCUMSTANCES.

1933	Summary	1934
12 miles	Length of new water mains laid	12 miles
5,146,916,000	Gallons supplied to district ...	4,076,193,000
95,102	Dwelling houses connected to mains	97,070
24.71 galls	Average supply for domestic purposes per head	18.83 galls
27	Notices served to secure proper water supply	36
4	Polluted wells closed	3
18	Water analyses	18
1¾ miles	Length of new sewers laid ...	3½ miles
137,911 tons	House and trade refuse collected	132,475 tons
17,540	Dustbins on hire	18,347
3,317,000	Street watering (gallons) ...	3,787,000

Water.

Details of the sources of the water supply of the Bristol Water Works Company were given in my report for 1930 and there has been no important extension during the year. The Company has put in hand the construction of a new reservoir at Cheddar which will hold 1,200,000,000 gallons, and the work should be completed in the year 1937. I am indebted to the general manager of the Company (W. A. D. Alexander, Esq.), for the following statement on the position :—

> " Notwithstanding the extraordinary drought which persisted between March 1933 and November 1934 (the deficiency of rainfall during this period amounted to 25 inches in the area of the Bristol gathering grounds) a constant supply of water of the usual high standard of purity was maintained during the year 1934, the only restriction put into effect being the prohibition of the use of hosepipes during the first four months of the year. The very satisfactory position in which Bristol was placed was chiefly due to the steps taken by the Company to acquire the surplus supply of an adjoining water authority, the provision of additional pumping plant, and the extraordinary co-operation of the consumers who by responding to the economy campaign and eliminating waste and undue consumption effected a saving of as much as 33 per cent. At the end of the year the Company's reservoirs were practically full, and there is no anxiety as to the sufficiency of the supply in the year 1935."

Periodical chemical and bacteriological analysis of the supply made by the city analyst (see section ix) show that a high standard of purity is maintained.

Drainage and sewerage.

The sewage of the city is discharged into the tidal portion of the River Avon by means of the water carriage system.

As an experiment to obviate the effects of offensive matter entering the river Avon, the chlorination of sewage at seven points in the main sewers was commenced in September, 1934, and the experiment will be continued during 1935.

With the exception of general maintenance and relaying of existing sewers, the only important drainage work carried out was the construction of a new main sewer for the drainage of the Brislington area, which work is now in progress. This was necessitated by the extension of the city boundaries, and increasing development in this area.

Rivers and streams.

No special action in regard to river pollution was found nceessary during the year except as referred to in the foregoing paragraph. River water was analysed on 185 occasions from six selected points and the results of the analyses are included in the report of the public analyst in section ix.

Closet accommodation.

By steady and persistent action the number of closets without flushing appliances remaining in the city continue to be reduced by an increasing rate annually. Flushing appliances were introduced in respect of 1,161 such closets during 1934.

Trade refuse collection and disposal.

The administration of this work is now being carried out by one section of the city engineer's department, and the city engineer reports this arrangement is proving satisfactory.

Street cleansing.

Several more light mechanical (petrol) vehicles were purchased during the year to facilitate the collection and disposal of street sweepings. The mechanical street gully emptiers referred to last year continue to give satisfactory results.

House and trade refuse.

More motor chassis were purchased during 1934 for this work the special bodies with sliding covers for these chassis were all constructed and fitted at the Corporation workshops.

The alterations and improvements at the Eastville destructor were completed in August, 1934. This destructor has been working at full capacity since 13th November, and the quantity of refuse incinerated has been considerably increased.

The service of notices under the powers of the Bristol Corporation Act, 1926, upon owners of property to provide proper ashbins was continued, and on the 31st December there were 18,347 ashbins on hire from the Corporation.

SANITARY INSPECTION.

Report by J. A. Robinson, F.S.I.A., Chief Sanitary Inspector.

	Visits	Notices served*		Notices complied with*	
		Verbal	Informal written	Verbal	Informal written
Dwelling houses	33,656	395	835	455	771
Houses let in lodgings ...	361	16	13	12	14
Common lodging houses ...	151	—	2	—	—
Tents, vans and sheds ...	327	1	3	1	—
Prep. or sale of food premises ...	902	43	10	30	11
Offensive trades: including fried fish shops, rag and bone dealers	577	13	3	11	—
Factories, workshops, and work-places	929	40	51	34	38
Entertainment places ...	224	11	15	7	14
All other matters	2,505	64	29	45	31

Formal notices and orders served:

For abatement of nuisances, etc.	230 notices
For repair of private party drains serving 287 properties ...	48 drains
For paving private passages serving 7 properties ...	1 passage

1933		1934
	Drainage work:—	
353	New drains laid	609
1,519	Drain tests made	1,478
1,563	Drains repaired	931
	Water closets:—	
1,015	Flushing appliances introduced	1,161
1,411	New pans fitted	1,133
352	Other repairs and cleansing	436
5	Cesspools abolished	15
	Work on dwelling places:—	
822	Roofs repaired	873
1,871	Other new and repair work	7,933
1,411	Premises cleansed	991
441	Houses treated for dampness	604
117	Improvement of lighting and ventilation	638
670	New scullery sinks fixed	823
26	Washing conveniences installed in houses	173
52	Conveniences *re* storage, preparation or cooking of food installed	415
41	Bathroom and geyser ventilation	105
93	Cases of overcrowding abated	41
—	Underground rooms closed	6
1,018	Abatement of other nuisances	1,271
23	Animals improperly kept:	11
8	Manure receptacles provided	7
1	Aged and infirm persons—removed to satisfactory premises	8
	Smoke:—	
69	Observations	70
18	Infringements of byelaws	11
	Public Health Acts:—	
2,003	Dwelling-houses inspected for housing defects under P.H. Acts	4,145
5,803	Inspections of such houses made	13,407

* Excluding notices under Housing Acts.

The foregoing table briefly summarises the work accomplished by district sanitary inspectors during the year under review.

2,835 complaints were received, and altogether 39,624 visits were made by the staff for all purposes resulting in 1,544 notices of an informal nature served of which 1,444 had been complied with at the end of the year. In addition, 378 formal notices and orders were served. These notices effected the abatement of insanitary conditions, including the relaying or repair of 1,381 drains; the provision of flushing appliances to 584 closets previously unflushed and the replacement of 577 obsolete closets by modern type pans; the repair of the roofs and interiors of 4,890 dwellings; lighting and ventilation improved in 219 houses; action taken to remedy dampness in 283 instances; and overcrowding abated at 18 dwelling houses. During the year six cases were taken to court to enforce abatement of nuisances.

Premises and occupations controlled by bye-laws or regulations.

Houses-let-in-lodgings.

Bye-laws are in force in the city which incorporate the provisions of sections 6 and 7 of the Housing Act, 1925. At the end of 1934 324 properties had been registered under these revised byelaws.

Common lodging houses (*prepared by Dr. A. G. Morison*).

There are 32 common lodging houses in the city including one belonging to the Corporation, but excluding six seamen's lodging houses. Fourteen of these common lodging houses have now been included within clearance areas pursuant to Part I. Housing Act, 1930.

The municipal lodging-house, which is well patronised and fills a definite need in the city, was fully described in the report for 1930. During 1934, 28,279 occupations were recorded, 2,706 less than in 1933 and a nightly average of 79 lodgers. The charge for each lodger per night is one shilling or 6/- for a weekly ticket; baths, 3d., and parcel tickets, 2d. extra.

The following report on common lodging houses was submitted by the medical officer of health and approved by the Health Committee :—

> It has been recognised for some time that many of the common lodging houses in Bristol do not conform to a standard now acceptable. The representation concerning the Great Ann Street area included 14 houses on the register of common lodging houses, and it is anticipated that as the Council proceed with their slum clearance programme more common lodging houses will be included in clearance areas.
>
> *Registration.*
>
> Before a house is used as a common lodging house the law requires that it be registered, and the keeper of a common lodging house has likewise to be registered with the local authority (Public Health Act, 1875, section 77).
>
> The house has first to be inspected and approved by some officer of the local authority (Public Health Act, 1875, section 78).

By means of a local act (Bristol Corporation No. 2 Act, 1930), the following further powers were obtained :—

(1) The Corporation may without prejudice to their powers under the public health acts refuse to register or to renew the registration of any house as a common lodging house unless they are satisfied—

(*a*) that the premises are suitably equipped for use and occupation as a common lodging house ; and

(*b*) that the use of the premises as a common lodging house is not likely to occasion inconvenience or annoyance to the inhabitants or persons in the district in which the premises are situate.

(The section (no. 66) gives right of appeal to a court of summary jurisdiction).

The local authority may refuse to register any person as a keeper " unless they are satisfied of his character and of his fitness for the position " and, after the commencement of this section, the registration of the keeper remains in force " only for such time not exceeding one year as may be fixed by the local authority, but the registration may be renewed from time to time " (Public Health Acts Amendment Act, 1907, section 69). If a keeper be convicted of any offence against the public health acts relating to common lodging houses, the court may cancel his registration (Public Health Acts Amendment Act, 1907, section 72).

The lodging house.

The public health acts give power to a local authority to secure " a proper supply of water " (Public Health Act, 1875, section 81), and that the house be " provided with sufficient and suitable sanitary conveniences having regard to the number of persons who may be received in the house " (Public Health Acts Amendment Act, 1907, section 74). The act give other powers, mainly concerned with general cleanliness and the prevention of the spread of infectious diseases, as well as the obligation to make bye-laws from time to time—

(1) For fixing and from time to time varying the number of lodgers who may be received into a common lodging house, and for the separation of the sexes therein ; and

(2) For promoting cleanliness and ventilation in such houses ;

(3) For the giving of notices and the taking precautions in case of any infectious disease ; and

(4) Generally for the well ordering of such houses.

The city bye-laws decree that a house shall not receive " a greater number of lodgers than shall be fixed by the sanitary authority," that there shall be provided " a sufficient number of basins . . .," and that " all such means of ventilation as may be provided shall be effectively used," etc.

From the foregoing, it will be appreciated that there is a lack of statement of any standard to be adopted as "sufficient" or "adequate" or "suitable" both in the general Acts and in the city's bye-laws.

A house to be registered as a common lodging house should—

(1) possess the conditions of wholesomeness needed for dwelling houses in general, and

(2) it should further have arrangements fitting it for its special purposes of receiving a given number of lodgers.

The house must conform to the accepted standards for dwelling houses in the city. It must be in good general repair and free from sanitary defects (Housing Act, 1930, section 62).

Its special purposes call for further considerations, mainly as follows :—

(*a*) the avoidance of overcrowding in the bedrooms ;

(*b*) an appropriate day room (or sitting room) ;

(*c*) an appropriate water supply, including facilities for personal washing ;

(*d*) an appropriate supply of sanitary conveniences ;

(*e*) an appropriate supply of cooking facilities ;

(*f*) appropriate facilities for the washing of clothes and drying of clothes ;

(*g*) escape in case of fire.

If any one of these be inadequately supplied, the house is not suitable for registration, for it would be impossible for the occupiers to be appropriately housed according to present day standards.

(a) *The avoidance of overcrowding in the bedrooms.*

The present byelaws do not lay down a definite standard concerning this. It has been customary for the officers to use a standard suggested by the late Local Government Board, namely 300 cubic feet per person over 10 years, and 150 cubic feet per person under 10 years. I would suggest 40 square feet of floor space for each lodger as a standard, for measurement by floor space is more in accordance with recent knowledge, and there is no justification for a less standard for children than for adults. The child requires exactly the same amount of floor space as an adult, the matter being largely the control of spread of the droplet infections, such control having nothing to do with the ages of those at risk, but with their spacing, one from another. The recent model byelaws of the Ministry of Health both for houses-let-in-lodgings and for common lodging houses reflect this opinion for both lay down the standard of 40 square feet of floor space for each person (although the model byelaws for common lodging houses still suggest 30 square feet of floor space for each person under 10 years). Of course there must be in addition appropriate separation of the sexes, and the present byelaws demand this satisfactorily.

(b) *An appropriate day room (or sitting room).*

A room, not used as a sleeping place by any of the lodgers and apart from the kitchen should be available as a common day room (or sitting room). This room should allow of 15 square feet for each lodger. The present byelaws do not require the provision of any such room, but it is necessary for the reasonable comfort of the lodgers and the promotion of good order and discipline amongst them.

(c) *An appropriate water supply, including facilities for personal washing.*

At present the law does not lay down details of standard requirements. A memorandum of the Local Government Board however, recommended that " washing accommodation should be in a special place and not be in the bedrooms, and the basins for personal washing should be fixed and have water taps and discharge pipes connected with them." I think there should be, at least, one such fixed lavatory basin for every 10 lodgers, and that this accommodation should not be in the bedrooms. I think, too, that facilities for bathing should be provided for the lodgers, one bath—not necessarily a fixed bath—or a "shower" for every 15 or part of 15.

(d) *An appropriate supply of sanitary conveniences.*

The present law does not lay down details of standard requirements. I would recommend the following standard :—

For houses accommodating not more than 30 persons, one water closet for 10 persons or any part of 10 ; and for such numbers over 30 as there be in any house, one additional water closet for 15 or any part of 15.

With this matter of closet accommodation for the lodgers, must be considered the slop closet accommodation appropriate for the bedrooms. If the building be more than of two storeys, I would suggest that there be at least one of the sanitary conveniences or a slop closet on every storey above two on which there be bedrooms.

(e) *An appropriate supply of cooking facilities.*

There should be a room to be used as a kitchen by the lodgers and this room must not be used as a sleeping apartment. The size of the room and the cooking facilities available should be adequate for the number of lodgers. Each case would require individual consideration.

(f) *Appropriate facilities for the washing of clothes and drying of clothes.*

Facilities for the washing of clothes are insisted upon by the Housing Committee in all houses dealt with by them ,and there should be such accommodation in lodging houses. Along with such, there must be space and convenience for drying clothes.

(g) *Escape in case of fire.*

Concerning adequate fire protection, the Bristol Corporation Act, 1926, section 89, lays down standards which must be respected.

I would suggest that the Health Committee consider the aforementioned details and give instructions that they be adopted in the consideration of the registration of common lodging houses, and that if the Corporation be reconsidering their byelaws, these details be incorporated in any new byelaws.

Summary of recommendations :—

(1) General.
House to conform to accepted standards for dwelling houses in the city.

(2) Special.

(*a*) The avoidance of overcrowding in bedrooms—
Standard to be 40 square feet of floor space for each lodger.

(*b*) Appropriate day room (or sitting room)—
Such room apart from bedrooms and kitchen—size 15 square feet per lodger.

(*c*) Appropriate water supply—
One fixed lavatory basin for every 10 lodgers ; not to be in bedrooms ; one bathing convenience for every 15 lodgers.

(*d*) Appropriate supply of sanitary conveniences—
For not more than 30 persons one water closet for 10 or any part of 10, and for numbers over 30, one additional water closet per 15 or any part of 15. One water closet or slop closet on every storey above the second.

(*e*) Cooking facilities—
The provision of adequate room as kitchen for the lodgers ; such room to be apart from bedrooms and day room.

(*f*) Washing of clothes—
The provision of facilities for washing and drying of clothes.

(*g*) Escape in case of fire.
Standard contained in the Bristol Corporation Act, 1926, section 89.

Tents, vans and sheds.

The total number of caravans, etc., within the city varies from time to time. At the end of the year there were 77 such dwelling places distributed in six districts of the city. Twenty-six of these are more or less permanent structures ; 48 (used by showmen and hawkers, etc.) were temporarily stationed within the city, and two were in temporary occupation. The 26 more or less permanent structures were occupied by 47 adults and 22 children, whilst 95 adults and 50 children were accommodated in the remainder of the caravans, etc.

327 visits of inspection were made and four notices were served to abate nuisances.

Offensive trades.

Bye-laws are in force which govern scheduled offensive trades in the city. At the end of 1934 there were 143 fish frying businesses (including 45 subject to annual consents as under) and 45 other offensive trades in the city. 577 inspections were made of these premises and in 16 instances it was found necessary to call attention to infringements of the bye-laws.

Annual consents to establish or continue fish-frying.

No. of applications.		Annual consents		Applications withdrawn	No. of applications in abeyance at end of year.	Total no. of consents in force (December, 1933)
In abeyance from previous year.	Received during the year.	Granted	Not granted			
—	11	3	6	2	—	45

The Health Committee has also issued annual consents in respect of the businesses of tripe-boiling and gut-scraping.

Underground sleeping rooms.

The Council has approved regulations for securing the proper ventilation and lighting of rooms in respect of which section 18 (1) of the Housing Act, 1925, applies, and the protection thereof against dampness, effluvia or exhalation.

Places of entertainment.

During the year the inspectors made 224 inspections of cinemas, theatres, and other places of entertainments; some of these visits being during a performance.

The methods of heating and ventilating the halls, and the provision of sanitary accommodation were found to be generally satisfactory. It was necessary however, to serve notices or give verbal intimation with regard to insanitary water closet accommodation or cleansing in 26 instances.

Workshops, etc.

Ninety-one notices relating to sanitary defects in factories, workshops, etc., were received during the year from H.M. inspector of factories.

Homework—lists of outworkers received during 1934.

	No. of outworkers	
	February	August
Boot and shoe making	3	33
Manufacture of bedding	—	—
Making of wearing apparel	49	49
Particulars received from other authorities	4	4
Total ...	60	86

The lists of outworkers and their addresses are supplied to the town clerk by the various employers. These premises are visited by the district sanitary inspectors during the course of their duties.

Factory and Workshop Act, 1901.

1.—*Inspection of factories, workshops and workplaces.*

Premises. (1)	Number of		
	Inspections (2)	Written notices (3)	Occupiers prosecuted (4)
Factories (Including factory laundries) ...	161	21	—
Workshops (Including workshop laundries)...	649	43	—
Workplaces (Other than outworkers premises)	111	10	—
Total ...	921	74	—

2.—*Defects found in factories, workshops and workplaces.*

Particulars (1)	Number of defects			Number of offences in respect to which prosecutions were instituted (5)
	Found (2)	Remedied (3)	Referred to H.M. Inspector (4)	
*Nuisances under the Public Health Acts :**				
Want of cleanliness	55	54	—	—
Want of ventilation	5	2	1	—
Overcrowding	—	—	—	—
Want of drainage of floors	4	1	—	—
Other nuisances	50	42	—	—
Sanitary accommodation { insufficient	15	11	—	—
Sanitary accommodation { unsuitable or defective ...	29	25	1	—
Sanitary accommodation { not separate for sexes ...	—	—	—	—
Offences under the Factory and Workshop Acts :				
Illegal occupation of underground bakehouses (s.101)	—	—	—	—
Other offences ... ... (Excluding offences relating to outwork and offences under the sections mentioned in the schedule to the Ministry of Health (Factories and Workshops Transfer of Powers) Order, 1921)	1	1	—	—
Total ...	159	136	2	—

* Including those specified in sections 2, 3, 7 and 8 of the Factory and Workshop Act, 1901, as remediable under the Public Health Acts.

Outwork in unwholesome premises, Sec. 108.

There were no instances of sanitary defects on outworkers' premises reported during the year.

Rag Flock Acts, 1911 and 1918.

Rag flock is used in a few premises in the city. Four samples were taken during the year, analysed by the public analyst, and found to conform to the standard of cleanliness laid down in the regulations.

Smoke abatement.

During the year 36 observations for smoke were taken and in eight instances the emission of smoke was in excess of that permitted by the byelaws made under sec. 2 of the Public Health (Smoke Abatement) Act, 1926. The firms concerned were immediately informed and advice given to the employes responsible. The nuisances arising from the smoke emissions referred to were abated without statutory action.

Schools.

The medical officer of health is also the school medical officer and issues a separate report which deals with the health of the scholars and the sanitation of schools. Some 57,000 children are kept under medical supervision during their school career at the inspection and treatment clinics.

Cleansing and disinfection.

Accommodation is provided at the central disinfecting station, St. Philip's Marsh, for the bathing and disinfestation of verminous persons of both sexes, and their belongings, and during the year 34 men and 25 women were dealt with. Children of school age receive attention at the school clinics.

The staff, equipment and plant at the central disinfecting station is as stated in previous reports. The number of disinfections last year of premises and articles, and articles destroyed, following exposure to infection are given below :—

1933		1934
3,996	Premises disinfected	4341
83,220	Articles ,, ...	98,185
1,533	Articles destroyed	1,490

Cemeteries.

The existing cemeteries with land held in reserve (a total of 150 acres) will, it is anticipated, provide adequately for the needs of the city for the next 15 years. These cemeteries which were reported in detail in 1932, now include the Brislington cemetery (over two acres) ; five are provided by the local authority (total 90¾ acres), two by private companies (53 acres), and two by

ecclesiastical bodies (6 acres). The crematorium at Arnos Vale cemetery was opened for use on 10th February, 1928, by the Bristol General Cemetery Company and 1,373 cremations have taken place since that date, including 329 in 1934.

Animal or insect pests.

In spite of the hot weather which prevailed during the summer, complaints due to animal or insect pests were below the normal number. This was especially marked in relation to crickets in houses adjacent to refuse tips or allotments and may be attributed to the special attention paid during the preceding autumn to the elimination of possible harbourage and spraying with an efficient insectide which was applied to tips by the city engineer's department over a period of two months and to the free supply of insect powder to invaded houses adjacent to the tips.

Rats and Mice (Destruction) Act, 1919.

The services provided by the Council for the suppression of rats and mice were actively continued by the staff of four rat catchers employed in the city and port under the direction of the chief sanitary inspector. The figures relating to rats destroyed on ships, quays, wharves, refuse tips, in the vicinity of Avonmouth, Bristol, or Portishead docks will be found in the report of the port medical officer of health. The work carried out in the city during 1934 was as follows :—

	Baits		Traps set.	Total no. of rats destroyed by trapping and fumigation	No. of rats examined at University laboratory (other than those caught on ships and docks)
	Laid	taken (approximate number)			
Generally in the city	112,770	59,811	1,705	1,187 and 32 mice	—
In public sewers (undertaken by the city engineer's department) ...	32,871	24,756	—	—	—
Total ...	145,641	84,567	1,705	1,187 & 32 mice	—

During National Rat Week (5th—10th November, 1934) the city engineer caused 16,787 baits to be laid in the city sewers (approximately 12,923 of which were taken) ; and in the city 3,100 baits were laid (approximately 1,550 of which were taken) : and 70 rat traps were set, which resulted in 40 rats being caught.

Leaflets giving information as to the best methods of destroying rats and mice, etc., are available to the general public.

VI.—HOUSING.

1933	Particulars asked for in Ministry of Health circular 1346.	1934
	Inspection of dwelling houses.	
814	(1) (*a*) Total number of dwelling houses inspected for housing defects (under Housing Acts)	1,377
1,628	(*b*) Number of inspections made for the purpose	2,066
814	(2) (*a*) Number of dwelling houses (included under sub-head 1 above) which were inspected and recorded under the Housing Consolidated Regulations, 1925	1,377
1,628	(*b*) Number of inspections made for the purpose	2,066
480	(3) Number of dwelling houses found to be in a state so dangerous or injurious to health as to be unfit for human habitation	713
334	(4) Number of dwelling houses (exclusive to those referred to under the preceding sub-head) found not to be in all respects reasonably fit for human habitation	664
	Remedy of defects without service of formal notices.	
91	Number of defective dwelling houses rendered fit in consequence of informal action by the local authority or their officers	227
	Action under statutory powers.	
	Proceedings under secs. 17, 18 and 23 Housing Act, 1930.	
87	Number of dwelling houses in respect of which notices were served requiring repairs	397
	Number of dwelling houses which were rendered fit after service of formal notices :—	
44	By owners	208
15	By local authority in default of owners	16
	Proceedings under Public Health Acts.	
1,033	Number of dwelling houses in respect of which notices were served requiring defects to be remedied, verbal notices excluded	835

Number of dwelling houses in which defects were remedied after service of formal notices :—

		Nuisances etc. No. of houses	Private party drains		
			No. of notices	Number of dwelling houses served	
78	By owners	187	10	36	223
140	By local authority in default of owners	1	36	221*	222
218		188	46	257	445

	Proceedings under secs. 19 and 21 Housing Act, 1930.
100	Number of dwelling houses in respect of which demolition orders were made
82	Number of dwelling houses demolished in pursuance of demolition orders
	Proceedings under sec. 20 Housing Act, 1930 :—
nil	Number of separate tenements or underground rooms in respect of which closing orders were made
nil	Number of separate tenements or underground rooms in respect of which closing orders were determined, the tenement or room having been rendered fit
	Proceedings under secs. 11, 14 and 15, Housing Act, 1925 :—
18	Number of dwelling houses in respect of which closing orders were determined, the dwelling houses having been rendered fit
33	Number of dwelling houses in respect of which demolition orders became operative
58	Number of dwelling houses demolished in pursuance of demolition orders

1934
2
4
21
19
49

* In some of these cases the local authority relaid the combined drain and private contractors relaid branch drains, etc.

Clearance Orders—Housing Act, 1930.

Under section 51 (2) of the Housing Act, 1930, in 1934, 28 official representations were made by the medical officer of health relating to the following areas :—

Lower Lamb Street, nos. 1, 2 and 3 areas.
Blinkers Steps area.
Callowhill Street area.
Water Street area.
Island Court area.
Brick Street area.
Farley Square area.
Eaton Street area.
Berkeley Square area.
Princess Amelia Court area.
Great Ann Street area.
Philadelphia Street area.
Water Street No. 2 area.
Penn Street area.
Clarks Court area.
Railway Terrace area.
Upper Wells Street area.
Avon Square area.
Nelson Place area.
Kingsland Road area.
Alfred Cottages area.
Portland Cottages area.
Walker Street area.
Salmon Street area.
Asher Lane area.
Farmers Court area.

The total number of houses included in these areas was 570 and the population 3,728.

In addition 101 demolition orders have been made on individual unfit houses during the year.

The following is a summary of the action taken under the Housing Act, 1930, since it came into operation—period August 1930 to 18th March, 1935.

A.—Repair procedure—sections 17 *and* 18.

HOUSES REPAIRED.

Year	By owners		By Corporation in default of owners	Annual Totals
	(a) after informal action	(b) after formal action		
1930 (Aug. to Dec.)	75	51	9	135
1931	140	53	21	214
1932	108	48	2	158
1933	91	44	15	150
1934	227	208	16	451
1935 (Jan. to 18th Mar.)	76	69	23	168
Total repaired ...	717	473	86	1276
Work meantime IN PROGRESS ...	118	93	11	222

Action already commenced by Housing Committee but works not yet actually in progress ...	Informal procedure	51
	Formal procedure (notices about to be served)	27
	Formal procedure, but not yet come to default	45
Total houses dealt with under repair procedure ...		1,621

B.—Procedure—section 19.

Demolition orders made	499	
Demolition orders made on default of undertakings	21	
		520
Undertakings accepted by Housing Committee :—		
(*a*) To repair		125
of which 55 have been repaired,		
21 demolition orders made on default,		
25 work in progress,		
11 outstanding,		
13 undertakings signed very recently.		
(*b*) Not to use for human habitation		35
of which 11 have been repaired,		
24 still in force.		
Total houses dealt with under 'irreparable-at-reasonable-cost' procedure		659
Houses represented but action deferred		15

C.—Area procedure—section 1.

HOUSES REPRESENTED IN CLEARANCE AREAS.

Year	No. of houses.	
1930	0	
1931	70	
1932	107	
1933	357	
1934	570	
1935 to 18th March ...	247	
	Total	1,351

Summary.

Houses for demolition (clearance areas and 'individual houses' procedure	1,871
Houses actually repaired	1,342
Repair works now in progress	247
Total	3,460

Census 1931—Housing.

Amongst the subjects of enquiry falling within the scope of the population census in 1931, the subject of housing has achieved prominence in a volume recently published which enumerates structurally separate dwellings, occupied dwellings and rooms private families and overcrowding in a form which provides a high degree of comparability between the census records of 1921 and 1931. Whilst students will find the scale of statistical treatment in the volume capable of throwing light upon new aspects of the housing problem the prevailing public interest justifies reproduction

in the report of the figures relating to Bristol compared with similar figures for all county boroughs. These are given on pp. 168-171.

The tables show that while the number of occupied dwellings increased during the decennium by 11,114 and rooms occupied by private families increased by 13,189 the excess of private families over dwellings numbered 20,776 compared with 18,701 in 1921. Other interesting comparisons are :—

	1931	1921
Rooms (occupied and vacant) per occupied dwelling	5.65	5.65
Private families per occupied dwelling ...	1.25	1.26
Persons per family	3.63	3.97
Persons per room	0.81	0.89
Percentage living more than 2 persons per room	5.29	6.89

The tables show that—

(1) More than half the dwellings in Bristol are of 4-5 rooms, and more than one-third are of 6-8 rooms ; in the county boroughs a quarter of the total dwellings are of 6-8 rooms. The larger number of rooms in the Bristol dwellings is also revealed, the figures showing that the Bristol dwellings (occupied and vacant) are larger than those of the county boroughs by .82 room.

(2) The number of private families and the number of people per occupied dwelling are larger in Bristol than are the averages for the county boroughs.

(3) Although we may think we have done well in Bristol in regard to the building of dwelling houses, the number of occupied dwellings in the city has increased by a figure which is 24 per 1,000 below the increase which has taken place in the county boroughs.

(4) The number of wholly vacant dwellings per 1,000 occupied has gone up slightly in Bristol, while it has fallen in the county boroughs. Perhaps this has some relation to the greater average size of Bristol dwellings.

(5) The number of families, *and the family is the unit requiring a dwelling,* has increased in Bristol by 2,075 more than the number of occupied dwellings. In 1931 there were 20,776 families in excess of dwellings occupied.

(6) From 1921 to 1931, there was some improvement in population per occupied dwellings, but the figures would suggest that any such improvement is due more to the diminution in the size of family than to the number of families accommodated in individual dwellings.

(7) Although the figures showing the incidence of overcrowding are considerable in Bristol, the position appears to be much better than is the average case of the county boroughs.

(8) The percentage of vacant unfurnished dwellings in Bristol is approximately 20 more than the average of county boroughs.

VII —INSPECTION AND SUPERVISION OF FOOD.

Report by J. A. Robinson, F.S.I.A.,

Chief Sanitary Inspector.

(a) Milk Supply.

1933	Summary of work effected.	1934
	Dairies, milkshops and cowsheds :	
5244	Visits paid	6278
150	Notices served	252
117	Premises cleansed	104
81	Premises built, repaired or altered	96
49	Drains amended	129
16	Insanitary water closets amended	124
19	Water closets fitted with pans and traps ...	26
20	Water closets fitted with flushing appliances ...	26
541	Other defects remedied	719
	Samples taken :	
70	For pasteurised test	108
—	For bacillus abortus, etc.	—
394	For tubercle examination	490
37	Repeats	39
27	Certified milk	28
77	Grade A (tuberculin tested)	129
50	Grade A	44
50	Pasteurised	132
20	Category and special	48
79	Test samples at institutions	69
885	Under Food and Drugs Acts	911
—	Ice cream, tubercle and bacteriological examinations	72
—	Ice cream powders	10
	Licences for graded milks.	
7	For the sale of certified milk	8
6	Bottling and sale of grade A (tuberculin tested)	7
19	To sell grade A (tuberculin tested)	23
1	To produce grade A milk	1
1	To bottle grade A milk	1
13	To sell grade A milk	14
3	Supplementary licences to sell graded milks from premises outside the city	4
4	To produce pasteurised milk	6
2	To sell pasteurised milk	12

During the year, 2,009 samples of milk were taken for chemical and bacteriological examination, an increase of 320 over the number examined in the previous year, mainly for bacteriological purposes.

Compared with previous years the amount of milk cleansed and pasteurised before delivery to the consumer has increased and is estimated as 61.5 per cent. approximate of the daily supply. The amount of 'bottled' milk retailed is estimated to have been increased to 69.6 per cent. approximate (not including an additional 7.97 per cent. approximate of 'homogenised' milk).

1933	Amount consumed daily	1934
21 gallons	Certified milk	18½
249 ,,	Grade A, T.T.	291½
186 ,,	Grade A	170
9,977 ,,	Pasteurised	11,697
2,055 ,,	Homogenised	1,500

Milk examined for tubercle bacilli.

Tubercle bacilli were found in 25 or 5.1 per cent. of the original samples taken. The farms of the city producers were visited by the veterinary surgeon and the infected cows removed from the herd and destroyed.

In all of the samples taken for examination for tubercle bacilli, preliminary reports were received, 44 of these reports indicated an excessive amount either of dirt, pus, organisms, etc., in the milk, and these reports were forwarded to the county authorities concerned.

The samples of milk including repeats examined for tuberculosis were from :—

Producers.	No. of specimens.	Tubercle bacilli present in.
City	81	4
Somerset	190	5
Gloucestershire	248	16
Wiltshire	10	—

Milk (Special Designation) Order, 1923.

Details of the results of the examination of samples of certified milk, grade A (tuberculin tested) milk and pasteurised milk will be found in the report of the preventive medicine laboratory (section ix).

One hundred and eight (108) samples of milk were also taken and submitted to the University (by number) for various test purposes in determining the extent of pasteurisation. Incomplete pasteurisation was revealed in 26 of these samples.

These examinations are now carried out as a matter of routine in the preventive medicine laboratory whose director (Dr. I. Walker Hall) recently published a monograph on the exhaustive methods of technique followed in the laboratory, which has been well received.

The pasteurising plants used by the six firms holding licences for the production of pasteurised milk are of the following size and make :—

Firm	Positive holder.	Capacity per hour gallons.
A	Enock's 8 drum	600
B	Silkeborg	350
C	A.P.V.	1,000
D	Astra	220
E	A.P.V.	200
F	Astra	350

Milk and Dairies Order, 1926.

Other milks.

The city analyst classified samples of other milks so that :—

Category 1—should comply with grade A requirements.

Category 2—those samples which fall below category 1 ;

and of the 48 samples of milks submitted during the year, 27 were placed in category 1 and 21 in category 2.

Registration.

The numbers of registrations are :—

Cowkeepers	60
Dairymen	412
Milkshops	509

in addition to which there are 133 dairymen retailing milk within the city from outside districts, making a total of 1,114, an addition of 44 over the previous year, due to the extension of the city boundary and the activities of the Milk Marketing Board.

The cowsheds are in a poor condition generally. As a rule, the Company's water is laid on, but there are a few farms on the boundary where the supply is obtained from collected rain water, wells and rhines as no Company's supply is available.

The 412 dairies in the city require constant attention. It is essential that every dairy should be provided with a separate room for dairy purposes. In this I can report substantial progress, but the problem of the 509 registered small milkshops still gives rise to much concern.

One method of dealing with these small milkshops which has proved successful in a large number of cases is to insist on the small general shop retailer dealing only in bottled milk.

Many shopkeepers are allowed to sell milk on the understanding that only unopened bottled milk is sold, thus eliminating some of the most undesirable retail premises. The number of shop-keepers in the city who retail homogenised milk is 543, some of which are included in the figure relating to registered milkshops. The registration of the remainder of these shop-keepers is being proceeded with.

Legal proceedings.

Reason	No. of prosecutions.	Result.
Filling a bottle with milk on other than registered premises (sec. 31). Milk and Dairies Order, 1926	1	Fined 10 shillings

Ice Cream.

The Bristol Corporation Act 1926 provides that all premises used or proposed to be used for the manufacture or sale of ice cream shall be registered for such purposes.

The inspection of premises, during 1934, showed that whilst a large number of firms manufactured ice cream under conditions of reasonable cleanliness there were many places where the conditions were such as would lead to contamination, for example :— small sculleries, badly lighted, ill ventilated and often crowded with domestic articles and laundry utensils ; also small general shops often with a dust laden miscellaneous stock together with the absence of facilities for the storage and cleasning of ice cream utensils.

Section 38 (1) of the Bristol Corporation Act, 1905 provides :—

> Any person being a manufacturer or vendor of or merchant or dealer in ice cream or other similar commodity who within the city—
>
> (*a*) causes or permits ice cream or similar commodity or any materials used in the manufacture thereof to be manufactured sold or stored in any room cellar or place which is in a condition likely to render such commodity injurious to health or in which there is an inlet or opening to a drain ; or
>
> (*b*) In the manufacture sale or storage of any such commodity does any act or thing likely to expose such commodity to infection or contamination or omits to take proper precaution for the due protection of such commodity from infection or contamination, or
>
> (*c*) Omits on the outbreak of any infectious disease amongst persons employed in his business to give notice thereof forthwith to the medical officer ; shall be liable for every such offence on summary conviction to a penalty not exceeding forty shillings.

All applications for registrations during 1934 were subjected to rigorous enquiry and the following standard so far as it related to the particular circumstances of the manufacture of ice cream was aimed at :—a separate room of sufficient size, adequately lighted and ventilated for use only in the manufacture of ice cream. The whole of the interior surfaces to be of such a nature as to be easily cleansed. Suitable means for the boiling of milk and the sterilisation

of utensils and a suitable cupboard for the storage of utensils, and ingredients.

Where a refrigerator container is utilised for 'cold mix' ice cream, a small separate cupboard to be provided for the storage of utensils.

Where it was not possible to attain the foregoing standard applicants were informed that registration could only be made for ' sale only ' of wrapped or cartoned ice cream.

Wrapped or cartoned ice cream provides a hygienic and satisfactory method of distribution particularly in regard to the small general shop.

The results of the examination of samples of ice cream will be found in the report of the preventive medicine laboratory (section ix).

(b) Meat and other foods.

1933	Summary of work effected.	1934
	Slaughterhouses and meat, etc., premises.	
6,079	Visits to slaughterhouses	6,237
1,407	,, wholesale and retail meat markets	1,255
2,344	,, meat and fish shops	2,259
48	,, cattle markets and railway sidings	66
17	,, fish curing premises	8
76	,, sausage, etc., making premises	75
3	,, cold stores	76
76	Slaughterhouses cleansed	56
3	Slaughterhouses rebuilt, repaired or altered	5
7	Sanitary defects, etc., remedied	1
	Meat, etc., destroyed.	
281	Entire carcases	355
49	Beasts, cows, etc.	69
6	Calves	7
85	Sheep	70
141	Pigs	209
79.17.3.8¾	Total weight—tons, cwts., qrs., lbs. ...	93.11.1.17½
38. 8.0.8½	Meat from slaughterhouses and shops	51. 9.0.26½
4.15.2.20	Meat from cold stores	5.15.0. 9½
36.14.0.8¼	Fish, poultry, rabbits, vegetables, etc. ...	36. 7.0. 9½

The Bristol Corporation Act, 1926 enables the Corporation to insist upon all butchers bringing freshly killed meat into the city from outside districts to submit the meat for inspection by the city inspectors : but this power has not been utilised, pending the provision of a public abattoir. In addition, the city inspectors may visit slaughterhouses situated within a radius of ten miles from the Council House and examine meat in course of delivery, which if found diseased or unsound, may be seized and dealt with as if exposed for sale. A considerable amount of the fresh meat consumed in the city is slaughtered outside the city boundaries.

By arrangement with the chief constable, police officers co-operate with health department officials in regard to certain sections of the meat regulations and other matters, and their help has proved most useful and effective.

During the year the city food inspectors discovered or had surrendered to them over 93½ tons of meat and other foodstuffs which was afterwards destroyed as diseased, unsound or unfit for human food, an increase of 13½ tons on the quantity destroyed last year. The meat included the entire carcases of 355 animals which were destroyed for the undermentioned reasons :—

Condition.	No. of Animals
BEASTS, COWS, &c.	
Emaciated	4
Emaciated and dropsical	1
Tubercular	62
Choked or fevered	1 each
CALVES.	
Dropsical, immature, melanosis, moribund, navel ill, sour and decomposed, tubercular	1 each
SHEEP.	
Brine stained	4
Caseous lymphadenitis	6
Dropsical	25
Dropsical and emaciated	26
Emaciated	2
Abscesses, bruised, jaundice, melanosis, moribund, peritonitis, suffocated	1 each
PIGS.	
Choked	2
Died	2
Extensive bruising	2
Necrotic enteritis	10
Peritonitis	8
Pleurisy and bronchitis	2
Bone taint, fevered, pleurisy, pleurisy and pneumonia	1 each
Pneumonia	3
Pyaemia	4
Ruptured blood vessel	2
Swine erysipelas	64
Swine fever	42
Tubercular	58
Sarcoma, septic, umbilical pyaemia	1 each

Legal proceedings in respect of unsound meat, etc.

Reason	Prosecutions	Results
Unlawfully exposing meat to contamination	3	Fined 10/- ,, 30/- ,, 60/-
Unlawful preparation for sale for human consumption of diseased and unsound meat	2	Fined £10 0 0 Dismissed. Orders made for destruction of meat in both cases.

Slaughterhouses.

Licenses valid.	In use.	Not in use	Total
Registered slaughterhouses ...	21	5	26
Permanently licensed do.	12	2	14
Annually licensed do.	34	—	34
Knackers' yards (annually licensed)	2	—	2
Total	69	7	76

This table shows that at the end of the year 76 licences to slaughter were in force in the city. Seven of these licences were for slaughterhouses not actually in use, although licensed, and two of the licences relate to additions made to slaughterhouses already licensed. The net total of licensed slaughterhouses is therefore 67, of which 34 are licensed annually. A large number of these slaughterhouses are quite unsuitable and insanitary but to close them without providing alternative accommodation will lead to overcrowding and insanitary conditions in other slaughterhouses.

During the year the council has commenced the erection of an up-to-date public slaughterhouse upon a site of approximately three acres with further room for extension of about five acres situated in the Greenbank district of the city at an estimated cost of £30,000. The abattoir will be completed and available to local butchers during the present year.

Under the Public Health (Meat) Regulations, 1924, licensees are required to give the department notice of killing and daily visits are paid to the principal bacon factories in the city for the purpose of inspecting meat proposed to be used for human consumption. In this way the city staff inspected during the year no fewer than 92,446½ animals, including 3,928 beasts, 6,406 calves, 22,979 sheep, 44,920½ pigs, 13,338 New Zealand pigs and 875 New Zealand sheep.

Slaughtering of Animals Act, 1933.

254 applications were made for licences to slaughter in accordance with the provision of the Act ; of these 245 were issued, one was refused (applicant under age), one applicant died before issue of licence, and seven remained unclaimed.

In 1925 the Council adopted a series of slaughterhouse byelaws which include a modified form of clause 9 (b) of the model byelaws and make the compulsory use of a mechanical instrument for stunning applicable to cattle and calves only. The instrument has also been voluntary adopted by a number of slaughterhouses in connection with the slaughter of pigs.

Preparation of food, etc.

All premises utilised for the preparation of food, etc., for human consumption are periodically inspected by the district sanitary inspectors. These places include bakehouses, cooked meat shops, fried fish shops, ice cream manufacturers, restaurants, street traders, etc. 1,479 inspections were made during the year, and 69 notices were served requiring the remedying of defects.

Premises used for the manufacture and sale of ice cream are registered annually by the Corporation ; during the year 334 were so registered.

The business of fish frying has been declared an offensive trade and since 1926 the Health Committee has granted annual consents to the establishment of approved new businesses. There are 195 fried fish shops in the city, 45 of which are subject to annual consents.

(c) Adulteration, etc.

During the year, 1,384 samples of food and drugs were taken for analysis under the provisions of the Food and Drugs (Adulteration) Act, 1928, and allied acts and regulations, the proportion of samples examined being 3.36 per 1,000 population. Details of the samples submitted will be found in the report of the public analyst, in section ix, showing that 84 or 6.07 per cent. were condemned as not genuine.

Legal proceedings were taken in 33 cases and penalties were imposed as follows :—

£2	(six cases)
£1	(five cases)
15/-	(one case)
10/-	(two cases)
£1 costs	(three cases)
10/- ,,	(seven cases)
5/- ,,	(two cases)
4/- ,,	(one case)

A skim-milk vendor was fined 10/- for failing to have his name and address conspicuously inscribed on his receptacle, and further to a penalty of £3 for not marking his receptacle " skimmed milk."

The examination of a sample of vinegar was found to contain nematode worms ; the bulk was seized and condemned by a magistrate as unfit for the food of man.

Butter.

All butter factories registered with the local authority were inspected and found to be satisfactory. One factory has been removed to outside the city ; one has changed ownership and one new factory has been registered.

Poisons and Pharmacy Act, 1908.

All premises licensed for the sale of poisonous substances for horticultural and agricultural purposes have been inspected. Two licences to sell were not renewed ; one was transferred and one new licence was granted. No Order in Council has yet been made bringing into operation part 2 of the Pharmacy and Poisons Act, 1933.

Agricultural Produce (Grading and Marking) Act, 1928.

The cold stores, wholesale and retail premises have been inspected in connection with the marking of eggs.

In two instances vendors were cautioned for not having eggs stamped as required by the Act. Preserved eggs, unstamped, were on sale in the county, and were being brought into the city ; the authorities concerned were advised.

Merchandise Marks Act, 1926.

Although in general the marking of imported eggs has been satisfactory, some little difficulty was experienced concerning the misleading description of certain imported eggs as 'new laid' ; we were able to obtain the withdrawal of this designation.

The marking of tomatoes and apples continues to require close attention.

Orders have been made for poultry, bacon and ham.

A number of retailers were cautioned for failing to mark or improper marking of the country of origin on currants, sultanas, etc.

Destructive Insects and Pests Act, 1907.

Inspections were made during the season by the inspector of the ministry and the inspector of the local authority with regard to the wart disease of potatoes. No new centres of disease were found during the year. Fourteen cases of non-immune varieties being planted in a scheduled area were found ; the owners of the plots were cautioned by the Ministry. No trace was found during the year of the Colorado beetle.

Noxious weeds.

Three complaints were received regarding noxious weeds on void land, and in each instance, upon notice being served, the nuisance was abated.

Artificial cream.

Two firms have been registered for the sale of artificial cream.

Fertilisers and Feeding Stuffs Act, 1926.

Twenty-eight samples were collected and submitted to the agricultural analyst, and of these nine were reported against. Five were found to be outside the limit of variation permitted and the owners in each case were cautioned. Four samples contained prussic acid, but as this was a deleterious matter naturally present and as the content would be considerably reduced in manufacturing processes, no action were taken.

(d) Chemical and bacteriological examination of food.

The city chemical and bacteriological laboratories for the examination of food, situated at the University of Bristol department of preventive medicine, Canynge Hall, Bristol, are under the direction of F. E. Needs, Esq., F.I.C., whose report containing full particulars of the nature and number of samples submitted for analysis during the year will be found in section ix of this report.

VIII.—PREVALENCE OF AND CONTROL OVER INFECTIOUS AND OTHER DISEASES.

Notifiable infectious disease.

The important facts to be noted with regard to the prevalence of infectious disease in the city in 1934 are :—

(1) That 199 more infectious cases were notified than in 1933 giving an increased attack rate of .47 per 1,000 population. This rise is due to the increased number of cases of diphtheria (111 more than last year), scarlet fever (274 more), cerebro spinal fever (7 more), poliomyelitis (5 more), malaria (3—none last year), dysentery (1 more), encephalitis lethargica (2 more), puerperal fever (1 more), non-pulmonary tuberculosis (5 more), mitigated by fewer cases of erysipelas (1 less), enteric fever (7 less), primary pneumonia (18 less), influenzal pneumonia (154 less), puerperal pyrexia (5 less), pulmonary tuberculosis (25 less). The number of cases of ophthalmia neonatorum was the same as last year (35).

(2) The death rate for the principal zymotic diseases, viz. :— enteric fever, smallpox, measles, scarlet fever, whooping cough, diphtheria, and diarrhoea and enteritis under two years of age, was .16 per 1,000 population, a fall of .06 on last year's rate.

(3) Sixty-one per cent. of the infectious cases were of children below the age of 15 years and 58 per cent. of school age (5—15 years). The corresponding figures last year were 53 per cent. and 36 per cent.

(4) Sixty-eight per cent. of all notifiable infectious disease excluding tuberculosis were isolated in hospital, one per cent. less than last year. This figure relates only to cases where diagnosis was confirmed in hospital.

(5) There were no notifications during the year of smallpox, cholera, plague, typhus fever, relapsing fever, continued fever or polio-encephalitis.

Tables follow giving details of all notifiable diseases by age groups, quarters and districts ; also the numbers and percentage of cases removed to hospital, and mortality, and in the reports of the medical superintendents of the city hospitals, sanatoria, etc., in section ix, will be found further observations on the type of disease nursed. Puerperal fever and ophthalmia neonatorum are specially dealt with in the report dealing with maternity and child welfare.

Notifiable Diseases during 1934 (including **Port** cases).

Notifiable Diseases.	Cases notified in whole district.								Removed to hospital		Deaths in whole district.								
	At all ages.	At ages—years.										At ages—years.							
		Under 1	1 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards	No.	%	All ages	Under 1	1 to 2	2 to 5	5 to 15	15 to 25	25 to 45	45 to 65	65 and upwards
Small-pox	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Cholera	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Plague	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Scarlet fever	1044	1	309	645	50	31	8	...	700	67	1	...	...	...	1	...	...	...	...
Typhus fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Diphtheria	751	12	138	417	93	64	22	5	714	95	16	...	1	5	8	...	...	2	...
Enteric fever (including paratyphoid)	4	...	...	1	1	1	1	...	4	100	...	...	...	...	...	...	...	...	...
Relapsing fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Continued fever	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Puerperal fever	5	...	...	...	4	1	...	...	...	...	} 8	...	...	...	...	2	6	...	...
Puerperal pyrexia	41	...	...	...	13	28	...	...	...	...									
Pneumonia	343	13	56	43	26	78	75	52	115	33	230	30	11	6	5	4	28	56	90
Erysipelas	165	9	2	7	10	49	71	17	74	45	10	6	...	...	...	...	...	4	...
Cerebro-spinal meningitis	17	5	6	2	...	2	2	...	15	88	14	4	4	1	1	1	1	2	...
Poliomyelitis	8	...	5	3	...	...	...	...	7	87	...	...	...	...	...	...	...	...	...
Malaria	5	...	...	...	2	3	...	...	3	60	...	...	...	...	...	...	...	...	...
Dysentery	8	2	...	2	1	3	...	...	8	100	...	...	...	...	...	...	...	...	...
Encephalitis lethargica	11	...	4	3	2	2	...	...	8	72	12	...	1	1	1	3	3	3	...
Polio-encephalitis	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Ophthalmia neonatorum	35	35	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Totals	2,437	77	520	1,123	202	262	179	74	1,648	68	291	40	17	13	16	10	38	67	90

Pulmonary tuberculosis	(33) 472	...	(1) 5	35	(5) 126	(9) 195	(15) 98	(3) 13	Pulmonary tuberculosis		301	...	1	1	2	56	129	100	12
Tuberculosis of the central nervous system	(11) 11	(1)	(4) 2	(3) 5	(1) 2	(1) 1	(1) ...	1											
,, ,, intestines and peritoneum	(2) 32	...	(1) 4	(1) 13	8	5	2	...	Other tuber-culous diseases		52	1	3	10	12	10	9	3	4
,, ,, vertebral column	(3) 10	...	3	1	(1) 2	3	...	(2) 1											
,, ,, other bones and joints	(1) 34	...	6	(1) 18	6	2	1	1											
,, ,, other organs	(7) 57	...	(3) 7	(1) 27	(1) 5	(1) 16	(1) 1	1											
Totals	616	...	27	99	149	222	102	17			353	1	4	11	14	66	138	103	16
	†(57)	(1)	(9)	(6)	(8)	(11)	(17)	(5)											

† Cases coming to the knowledge of the M.O.H. otherwise than by notification (not included in totals of notifications).

Notifications of infectious disease in registration sub-districts and in quarters. (Port cases excluded).

1933 Total	1933 Attack rate per 1,000	Notifiable Diseases	Total	Total cases notified in each district: Ashley	Bristol South	Bristol Central	Clifton	St. George	Stapleton	Westbury-on-Trym	Public Insts.	Notified in each Quarter: 1st	2nd	3rd	4th	1934 Total	1934 Attack rate per 1,000	Port Cases
..	..	Small-pox	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	Cholera	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	Plague	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
639	1.56	Diphtheria (including membranous croup)	750	76	155	87	145	79	64	73	66	181	135	144	290	750	1.83	1
166	.41	Erysipelas	165	15	46	17	19	30	14	8	16	67	33	30	35	165	.40	..
770	1.88	Scarlet fever	1,044	178	273	77	44	241	150	59	22	213	170	203	458	1,044	2.54	..
..	..	Typhus fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
11	.03	Enteric fever	4	1	..	..	..	1	..	1	1	2	..	1	1	4	.01	..
..	..	Relapsing fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
..	..	Continued fever	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
10	.02	Cerebro-spinal meningitis	17	2	4	4	1	4	..	2	..	6	7	..	4	17	.04	..
3	.007	Poliomyelitis	8	1	4	1	..	2	..	..	..	1	1	3	3	8	.02	..
321	.78	Acute primary pneumonia	303	34	101	16	31	59	37	18	7	89	102	51	61	303	.74	1
193	.47	,, influenzal pneumonia	39	10	4	7	2	10	3	..	3	20	11	1	7	39	.09	..
..	..	Malaria	3	1	1	..	..	..	..	1	..	2	..	..	1	3	.007	2
7	.02	Dysentery	8	..	..	..	1	2	..	..	5	2	..	1	5	8	.02	..
9	.02	Acute encephalitis lethargica	11	..	4	3	..	4	..	..	..	1	3	5	2	11	.03	..
..	..	Acute polio-encephalitis	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
4	.01	Puerperal fever	5	1	2	..	..	1	..	..	1	1	1	2	1	5	.01 } *	..
46	.11	Puerperal pyrexia.. ..	41	5	7	..	9	4	1	..	15	5	7	15	14	41	.10 }	..
35	.09	Ophthalmia neonatorum	35	3	5	5	4	8	5	3	2	6	17	9	3	35	.09**	..
496	1.21	Pulmonary tuberculosis .. (33)	471	60	119	51	47	87	55	38	14	126	129	112	104	471	1.15	1
(42) 12	.03	Tuberculosis of central nervous systems .. (11)	11	3	2	..	1	1	3	1	..	3	4	2	2	11	.03	..
(14) 24	.06	Tuberculosis of intestines and peritoneum .. 2)	32	1	10	3	5	7	4	1	1	10	6	8	8	32	.08	..
11	.03	Tuberculosis of vertebral column .. .. .. (3)	10	..	3	1	2	2	2	..	..	3	4	2	1	10	.02	..
25	.06	Tuberculosis of other bones and joints .. .. (1)	34	8	4	3	5	9	2	2	1	10	10	8	6	34	.08	..
(2) 67	.16	Tuberculosis of other organs (7)	57	6	14	7	5	15	6	3	1	18	11	14	14	57	.14	..
2,849 (71)	6.96	Totals .. † (57)	3,048	405	758	282	321	566	346	215	155	766	651	611	1,020	3,048	7.43	5

† Cases coming to the knowledge of the M.O.H. otherwise than by notification (not included in totals of notifications).

* 7.8 per 1,000 total births. ** 5.8 per 1,000 live births.

Smallpox.

	Rate per 1,000 population.	
	Attack rate	Death rate
Bristol	.00	.00
England and Wales ...	.004	.00

No case of smallpox was reported in Bristol during the year 1934 and the city has remained free of this disease since two cases of the mild type occurred in 1929. The medical officers of the department are available for consultation in doubtful cases and I welcome co-operation in this way. One difficult case was seen with the doctor in attendance during the year and diagnosed as chickenpox.

Vaccination.

There has been no change in the local arrangements described in my report for 1930 for dealing with vaccination.

The city is divided into eight vaccination districts, a public vaccinator being appointed for each district, separate public vaccinators are also appointed for Southmead Hospital, and Eastville and Stapleton Institutions.

The various districts and public vaccinators are as follows :—

St. George	Dr. E. V. Foss
St. Philip & Jacob	Dr. H. Hope Scott
Ashley	Dr. J. A. L. Roberts
Stapleton	Dr. H. Grey.
Clifton	Dr. E. U. Bartholomew
Central	Dr. I. Williams
Bristol South ...	Dr. G. S. Mundy
Westbury-on-Trym ...	Dr. S. B. Green

The following table summarised the work of the public vaccinators and the vaccination officers for the last three years :—

Year	No. of births registered	Certificates of :				Persons successfully vaccinated at the cost of the rates (year ended 30th Sept.)			
		Primary vaccinations (all ages)	Statutory declarations	Postponements	Insusceptibility	Successful primary vaccination.			Re-vaccinations.
						Under 1 year	Over 1 year	Total	
1934	6,000	2,930	3,047	154	15	845	1,554	2,399	100
1933	5,860	2,213	2,982	159	17	699	1,038	1,737	54
1932	6,352	2,166	3,131	205	22	730	550	1,280	38

In addition during the year 1934, 93 re-vaccinations were registered by the vaccination officers. No contacts of cases of smallpox were vaccinated or re-vaccinated under the Public Health (Smallpox) Regulations, 1917.

Diphtheria (including Membranous Croup).

Year	No. of cases.				Total	No. of deaths.				Total	Case rate per 100,000	Death rate per 100,000	Fatality (case mortality %)
	Quarters.					Quarters.							
	1	2	3	4		1	2	3	4				
1925	412	271	222	223	1,128	28	23	17	6	74	292	19	6.6
1926	231	171	135	174	711	15	8	11	9	43	185	11	6.0
1927	218	140	120	175	653	16	4	4	7	31	169	8	4.7
1928	158	127	118	196	599	3	4	3	7	17	153	4	2.8
1929	201	183	227	521	1,132	17	7	15	23	62	289	16	5.5
1930	600	246	250	388	1,484	24	3	4	10	41	375	10	2.8
1931	271	168	193	196	828	10	5	9	7	31	207	8	3.7
1932	149	69	98	227	533	6	3	6	7	22	132	5	4.1
1933	137	140	167	195	639	9	2	5	6	22	156	5	3.4
1934	182	135	144	290	751	5	3	2	6	16	183	4	2.1

	Rate per 1,000 population.	
	Attack rate	Death rate
Bristol	1.83	.04
England and Wales ...	1.70	.10

Although the number of diphtheria cases reported increased by 111 (excluding one port case) compared with last year, the number of deaths were six less and the case mortality fell from 3.4 per cent. to 2.1 per cent. This compares with an average fatality percentage of 3.9 for the preceding five years and 5.3 per cent. for the period 1924/1928.

Full credit for this decline in fatality may be attributed to modern hospital treatment as no less than 95 per cent. of the total cases notified were admitted to hospital for treatment, a fact which emphasises the wisdom of prompt removal to hospital in cases of diphtheria.

Fifty five per cent. of the total cases notified occurred amongst children of school age and 19 per cent. amongst children under five years of age ; 88 per cent. of the fatal cases were children under 15 years of age and 38 per cent. under five years of age.

The diphtheria attack rate in Bristol was .13 per 1,000 population higher than for the country as a whole. In contrast, the death rate was less than half the national death rate.

Diphtheria immunisation.

The most effective weapon in combating the disease is the protection afforded by the safe and efficient method of immunisation in early childhood by means of toxoid.

As stated in my report for 1930 the Health Committee have adopted this method and the course is available free of charge for all children of school age and under. By arrangement with the Education Committee inoculations are given by the school medical staff at the schools and a weekly clinic is also held at 30 Portland Square (the central school clinic), the Health Committee being responsible for all expense.

The following table shows the number immunised in 1934 at schools and centres (excluding the city isolation hospital at Ham Green) particulars of which are given in the report of the resident medical superintendent).

1933		Education department	M. & C.W. department	Total 1934
1,796	No. received full course ...	1,489	168	1,657
1,187	Observed after Schick testing	1,370	144	1,514
818 (68.9%)	Found negative after observation	1,342	144	1,486 (98.1%)

Forty-four children contracted diphtheria in 1934 subsequent to receiving immunising injections, but no significance must be attached to this figure, as several had not had a full course, and others who had a full course had not been subsequently tested.

However, twelve cases of diphtheria occurred in children who had been tested and declared negative subsequent to immunisation.

The cases were as follows :—

Patient	Age		Immunising injections (dates)			Tested and found negative	Diphtheria onset 1934	Character of disease
	M.	F.	1st	2nd	3rd			
N.T.	4	...	21/ 3/33	25/ 4/33	19/ 5/33	13/10/33	13/ 1/34	Moderate
C.H.	4½	...	14/ 7/33	22/ 7/33	29/ 7/33	4/11/33	15/ 1/34	Moderate
A.L.	5	...	26/ 5/33	23/ 6/33	21/ 7/33	1/12/33	16/ 2/34	Mild
R.W.	9½	...	16/ 4/30	8/ 5/30	29/ 5/30	27/10/30	16/ 4/34	Very mild
A.B.		10	18/ 2/30	11/ 3/30	31/ 3/30	14/10/30	24/ 4/34	Nasal carrier
D.G.		9	14/ 2/30	7/ 3/30	28/ 3/30	23/ 9/30	13/ 5/34	Fairly severe
A.H.	10	...	25/ 1/30	15/ 2/30	8/ 3/30	12/ 7/30	1/ 9/34	Severe
E.W.	...	5	10/ 9/32	1/10/32	22/10/32	5/ 3/33	5/ 9/34	Mild
H.S.	...	6	16/12/32	17/ 1/33	3/ 3/33	5/ 9/33	11/10/34	Moderately severe
J.H.	...	5	15/ 2/30	29/ 3/30	18/ 5/30	11/10/30	23/10/34	Moderately severe
M.B.	...	7½	27/ 2/34	10/ 4/34	1/ 5/34	5/10/34	10/11/34	Mild
G.H.	8	...	30/ 5/33	11/ 7/33	1/ 9/33	24/11/33	6/12/34	Very mild

Up to the end of 1934, 8,187 children, ages 1—15, have been immunised and tested negative, and of these twelve cases of diphtheria occurred in 1934, equivalent to an incidence rate of 1.4 per thousand compared with 738 cases of diphtheria amongst approximately 77,599 children, ages 1—15 in the city who had not been immunised, giving an incidence rate of 9.5 per thousand.

Supply of diphtheria antitoxin.

The local arrangements under which supplies of diphtheria antitoxin are available to medical practitioners were detailed in my 1932 report. The scheme, in addition to facilitating the immediate application of antitoxin in diphtheria and providing free issues to patients unable to pay for it, ensures a constant supply of fresh antitoxin at all times.

Erysipelas.

Attack rate	...	.40 per 1,000 population
Death rate	...	.024 ,, ,, ,,

One hundred and sixty five (165) cases of erysipelas were reported during the year of which 83 per cent. were adults over 25 years of age. Forty five per cent. of the cases were removed to hospital for treatment.Ten deaths occurred including six under one year of age, giving a case mortality of 6.1 per cent. compared with 4.8 per cent. last year.

The attack rate for the year was .11 per 1,000 population below that for England and Wales (.51).

Scarlet Fever.

Year	No. of cases				Total	No. of deaths				Total	Case rate per 100,000	Death rate per 100,000	Fatality (case mortality %)
	Quarters					Quarters							
	1	2	3	4		1	2	3	4				
1925	336	301	330	527	1,494	12	6	6	5	29	387	7.5	1.9
1926	359	181	199	212	951	6	2	—	1	9	248	2.0	0.9
1927	245	297	329	562	1,433	...	...	1	1	2	371	0.5	0.1
1928	332	276	220	383	1,211	...	1	...	2	3	310	0.8	0.25
1929	337	211	202	358	1,108	1	3	2	2	8	283	2.0	0.7
1930	281	177	145	208	811	2	...	...	...	2	205	0.5	0.25
1931	127	100	103	123	453	1	...	1	...	2	113	0.5	0.4
1932	100	104	106	328	637	1	...	...	2	3	160	0.7	0.5
1933	196	240	131	203	770	2	1	1	...	4	188	1.0	0.5
1934	213	170	203	458	1,044	...	1	...	...	1	254	0.2	0.09

	Rate per 1,000 population.	
	Attack rate	Death rate
Bristol	2.54	.002
England and Wales ...	3.76	.02

The year under review was again noteworthy for a marked increase in the number of cases of scarlet fever. Altogether, 1,044 notifications were received, the largest number since 1928 and 274 more than in 1933. This confirms the suggestion made last year that we are on the upward trend of a cycle for this disease which from past records will take about ten years to complete a return to anything like the low level of 1931 (453).

The most satisfactory feature is the extraordinary low mortality last year. Only one death occurred, that of a boy of five years of age who died one week after admission, streptococcal septicaemia endocarditis having supervened. Removal to hospital was not accepted for 10 days after notification. The case mortality was the lowest on record—.09 per cent.—and compares with .5 in the previous year. Sixty-seven per cent. received hospital treatment.

The attack rate for England and Wales for 1934 rose by .55 per 1,000 population with the same death rate as last year (.02). Compared with national rates, Bristol's attack rate was 1.22 per 1,000 below that for the country and the death rate .018 less.

Enteric fever.

	Rate per 1,000 population.	
	Attack rate	Death rate
Bristol	.01	.00
England and Wales ...	.03	.00

Only four cases of enteric fever were notified in the city during the year including one paratyphoid A infection. This is seven less than last year. The cases, which were confirmed bacteriologically, were individualistic in distribution, and there was no evidence ascribing spread of the disease to any preventable cause. There were no deaths. All four cases were removed to hospital for treatment.

The attack rate for Bristol was .02 per 1,000 population below that recorded for England and Wales.

Cerebro spinal fever.

Attack rate	...	.04 per 1,000 population.
Death rate	...	.03 ,, ,, ,,

During the year 17 cases of this disease were notified, an increase of seven on the previous year and there were 14 deaths compared with six in 1933 giving a case mortality of 82 per cent.

Fifteen cases (88 per cent.) were removed to hospital and nine were confirmed bacteriologically. Thirteen cases and nine deaths occurred in the first and second quarters of the year. Prior to 1931, the average annual number of cases of this disease in the previous twelve years was just over five ; since that year the average number has been 12 cases each year. There was no instance in 1934 of more than one case occurring in a house or institution. One case was notified from a home for children, but no further case occurred in the home. Thirteen (or 76 per cent) of the cases were children under 15 years of age.

Poliomyelitis.

Attack rate	...	.02 per 1,000 population.
Death rate	...	.00 ,, ,,

Eight (8) cases of anterior poliomyelitis were notified during the year and seven were removed to hospital for treatment. This is an increase of five on the number notified in 1933. All were children under 15 years of age, five between one and five years (65 per cent). There were no deaths.

Encephalitis lethargica.

Attack rate	...	.026 per 1,000 population
Death rate	...	.029 ,, ,, ,,

Eleven (11) cases and 12 deaths from this disease were reported during the year, compared with nine cases and six deaths in 1933. Seven occurred in children under 15 years of age, four between one and five years (36 per cent). From the history one of the notified cases appeared to be a chronic case notified for the first time. Eight of the acute cases were treated in hospital.

Dysentery.

Attack rate	...	.02 per 1,000 population
Death rate	...	.00 ,, ,, ,,

Eight (8) cases of this disease were notified during the year, one more than last year. Six occurred in private homes and two in different institutions. There was no instance established of connection between either of these cases, and all were admitted to hospital for treatment. As was the case last year, there were no deaths from this disease.

Non-notifiable infectious diseases.

1933		Quarters				Total 1934
		1st	2nd	3rd	4th	
	Cases—					
2,403	Measles ...	1,008	443	237	64	1,752
30	German measles	19	115	40	180	354
537	Whooping cough	641	826	108	64	1,639
2,355	Mumps ...	27	14	1	8	50
763	Chicken-pox ...	528	266	138	295	1,227
6,088	Total ...	2,223	1,664	524	611	5,022
	Deaths—					
14	Measles ...	8	4	—	—	12
—	German measles	—	—	—	—	—
16	Whooping cough	6	9	3	—	18
—	Mumps ...	—	—	—	—	—
—	Chicken-pox ...	—	—	—	—	—
30	Total ...	14	13	3	—	30

The only figures available relative to the number of cases of non-notifiable infectious disease are those obtained from school cards and from returns of cases discovered in the homes by nurses and health visitors.

Measles and mumps show decreased numbers compared with 1933, but increases are recorded in the case of german measles, whooping cough and chicken-pox.

Measles.

	Death rate per 1,000 population
Bristol	.029
England and Wales ...	.09

Altogether 1,752 cases were reported to the department during the year—mainly in the first quarter—as compared with 2,403 last year, and 290 in 1932. Similarly, the number of deaths fell from 14 to 12—all in the first quarter—of whom 92 per cent. were under five years of age and 56 per cent. between two and five years. 81 cases were removed to hospital.

The disease, apparently, was not so rife in Bristol as in other parts of the country, judged by the evidence of the comparative death rates, Bristol's death rate being .061 per 1,000 less than the rate for England and Wales.

Broncho-pneumonia was as usual the commonest complication associated with measles, 14 cases suffering from these conditions in homes where the facilities for nursing were inadequate, being removed to Ham Green hospital for treatment, where one case proved fatal.

German measles.

These cases increased considerably during the year, 354 cases being reported, against 30 in 1933. There were no deaths.

Whooping cough.

	Death rate per 1,000 population
Bristol	.04
England and Wales ...	.05

There was a marked increase in the number of cases of whooping cough reported in the city, the disease being prevalent in the first and second quarters of the year. Altogether, 18 children, all under five years of age, died from the disease, 15 in the first six months of the year. The corresponding figures for the previous year were 537 cases and 16 deaths. Fifty-nine (59) cases were admitted to hospital, where six proved fatal. The death rate from the disease in Bristol was .01 per 1,000 below that for England and Wales.

Mumps.

After the prevalence reported in 1933, there was a very marked decrease in the number of cases reported. These fell from 2,355 to a total of 50, more than half of which occurred in the first quarter of the year. There were no deaths.

Chickenpox.

The case incidence of chickenpox showed a considerable increase compared with last year, 1,227 cases being reported against 763 in 1933. The disease as usual was more prevalent in the winter months.

Work of the home nurses.

Three trained nurses are employed to visit homes in connection with infectious diseases. These nurses visit all cases of notifiable and non-notifiable infections, and their duties were described in my report for 1930.

The following table gives the number of cases visited by these nurses during 1934 :—

1933	Disease	1934
780	Scarlet fever	1,052
607	Diphtheria	742
9	Enteric fever	6
9	Encephalitis lethargica	12
4	Anterior poliomyelitis	7
—	Polio encephalitis	—
9	Cerebro-spinal fever	18
—	Malaria	2
4	Dysentery	6
155	Erysipelas	156
2,424	Measles	1,672
618	Whooping cough	1,630
703	Chicken pox	1,003
1,660	Mumps	42
21	German measles	164
7,003	Total cases	6,512

Fifty enquiries regarding infectious disease were also made by district sanitary inspectors.

Influenza and respiratory diseases (excluding pulmonary tuberculosis).

Deaths at ages and in quarters.

1933 Rate per 1,000	Deaths	Rate per 1,000	Under 1	1-5	5-15	15-25	25-45	45-65	65-	Total 1934	Quarters 1st	2nd	3rd	4th
.71	Influenza ...	.04	2	...	...	...	5	2	9	18	9	4	...	5
.44	Bronchitis ...	.27	2	2	...	...	2	28	76	110	54	19	14	23
.69	Pneumonia ...	.56	30	17	5	4	28	56	90	230	85	69	28	48
.23	Other respiratory diseases ...	.21	...	1	1	1	5	18	62	88	27	24	18	19
2.07	Total ...	1.08	34	20	6	5	40	104	237	446	175	116	60	95
	NOTIFICATIONS													
.78	Primary pneumonia ...	.74	11	55	40	20	63	67	48	304	89	102	51	62
.47	Influenzal pneumonia ...	.09	2	1	3	6	15	8	4	39	20	11	1	7
1.25	TOTAL ...	.83	13	56	43	26	78	75	52	343	109	113	52	69

	Rate per 1,000 population	
	Influenza death rate	Pneumonia attack rate
Bristol	.04	.83
England and Wales ...	.14	1.27

The group of diseases included in the table above showed a notable decline in the number of deaths, although it still contributed largely to the death rate, the deaths from these diseases representing 10 per cent. of the total compared with 17.2 per cent. last year. This position is similarly reflected in the incidence of pneumonia notifications and is accounted for by the fact that the city had no influenza visitation last winter.

The death rate fell by .99 per 1,000—to which influenza contributed a reduction of .67—and the attack rate for primary and influenzal pneumonia notifications fell by .42 per 1,000, .38 of which represents the drop in influenza pneumonia notifications. The pneumonia attack rate was .44 per 1,000 population below that for the country as a whole and the influenza death rate .10 less. These are the only national rates available for comparison, but they serve to indicate the city's satisfactory state of health during the year so far as these diseases are concerned.

If necessary, wards are set aside at Ham Green Hospital for the treatment of pneumonia where the home facilities for nursing are inadequate. Altogether 57 cases were removed to city hospitals, of which 13 proved fatal.

As usual the mortality from respiratory diseases was mainly amongst middleaged and elderly people—76 per cent. of the total deaths being persons over 45 years of age. This ratio is less marked in pneumonia, the number of deaths in this age group falling to 63 per cent., mainly because of the pneumonia mortality amongst infants under five years of age, which accounted for 20 per cent. of the total pneumonia deaths.

Heart disease.

Deaths, death-rates and percentage of age groups.

						Age groups, 1934.			
	1930	1931	1932	1933	1934	—15	—45	—65	+65
No. of deaths	878	996	1,060	1,156	1,100	6	49	258	787
Death rate per 1,000 population ...	2.25	2.49	2.62	2.82	2.68	% .5	4.5	23.5	71.5

There were 1,100 deaths certified from heart disease during the year, 56 less than last year. As usual, more deaths were attributed to this disease than any other in the list of specified causes of death, the ratio being approximately one in four of the total deaths registered. The death rate was 2.68 per 1,000 population compared with 2.82 in 1933, a fall of .14 per 1,000, the first drop to be recorded since 1930, and no doubt due to the reduced incidence of respiratory disease (previously referred to) to which heart deaths are closely associated by reason of the fact that in the classification of deaths, heart disease takes precedence over respiratory diseases other than influenza and pulmonary tuberculosis. Many deaths resulted from cardiac complications of respiratory diseases or *vice versa*, and in such cases the deaths would be classified under heart disease. This must be borne in mind when considering deaths from heart disease.

No less than 71.5 per cent. of the deaths classified to heart disease occurred amongst aged people over 65 years, or nearly two per 1,000 of the total death rate (10.86)

Cancer.

* *Deaths, death-rates and percentage in age groups.*

			Age Groups.					
1933		1934		—15	—25	—45	—65	+65
595	No of deaths ...	650	Male ...	1	6	17	222	51
	Death rate per 1,000 population		Female	—	1	25	256	71
1.45		1.58	% ...	.2	1.1	6.4	73.5	18.8

* Registrar General's figures.

Cancer which again ranks as the second greatest cause of mortality was responsible for 650 or 14.5 per cent. of the total deaths registered in Bristol during the year, an increase of 55 over the number recorded last year. 353 occurred amongst females and 297 in males, the increase in female deaths (36) almost doubling the increase in males (19). The table above illustrates the fatality percentage in age groups—over 92 per cent. of the deaths occurring in persons over 45 years of age. The death rate for the disease increased by .13 to 1.58 per 1,000 and is now .31 per 1,000 higher than it was ten years ago (1.27) while the percentage of cancer deaths to total deaths have risen in the same period by four per cent.

In the Journal of Hygiene (Vo. XXX5, No. 1, 4th March, 1935) Dr. Percy Stocks, medical statistical officer, General Register Office, London, published an interesting paper on "The frequency of cancer deaths in the same house and in neighbouring houses." The data employed in this paper are the records of every cancer death occurring in Bristol during the six years 1922/1927 and in Worcester during the ten years 1921/1930, which were examined for statistical evidence of the existence of "cancer houses" by (1) "comparing the frequencies of pairs of cancer deaths in (*a*) the same house and (*b*) in pairs of neighbouring houses at different intervals apart in the same street and (2) repeating the process for pairs of persons aged 55-75 resident in a sample of the same streets at the census of 1931."

Dr. Stocks' conclusions after an exhaustive analysis of the data were as follows :—

1. "This investigation of cancer deaths in Bristol and Worcester shows that cancer deaths tend to occur in pairs more frequently in the same or adjacent houses than would be expected if the population at risk was distributed uniformly in the houses and the deaths took place at random in the population. If the assumption of a uniform distribution of the people liable to die of cancer were valid, this result would be suggestive of some kind of "infectious" origin, but an exactly similar study of the distribution of persons aged 55-75 living in houses in Bristol, according to the census, shows that when such persons are paired together in the same manner as the cancer deaths, precisely the same result is reached. To postulate any theory of infection to "explain" the curious distribution of cancer deaths in houses is therefore redundant, since it can be sufficiently explained by the tendency to segregation in the same or adjacent houses of people of those ages at which cancer death is of most frequent occurrence.

2. When two cancer deaths occurred in the same street in the same or adjacent years, there was no tendency for the cancer to be located in the same part of the body rather than in different parts.

3. Significant differences were found between the distributions of cancer deaths according to site in Bristol and Worcester."

This, in his own words, seems to dispose finally of the "cancer house" ghost.

I append a statistical report prepared by the radium officer (Sylvia B. Wigoder, M.A., M.D., Ph.D., D.M.R.E.) on the work of the national radium centre established at the Bristol Royal Infirmary for Bristol and the South West of England. The radium sub-committee of the Board of the Faculty of Medicine of the University of Bristol made a full report for the year on the centre to the Radium Commission.

There are four beds set aside at this hospital for radium patients, increasing to 10. The average daily occupations in 1934 was seven and the duration of stay in hospital, 15 days. The radium loaned by the Radium Commission to the centre amounts to 499.28 mgs. In addition the hospital owns 200 mgs. Radon used amounted to 743 mcs.

During the year, the number and type of cases dealt with at the centre were as follows :—

Type	Referred.			Treated.		
	Bristol	Not Bristol	Total	Bristol	Not Bristol	Total
Malignant ...	76	104	180	52	69	121
Non-malignant	54	52	106	34	40	74
Totals ...	130	156	286	86	109	195

This information is amplified as regards malignant cases in a table which indicates the sex, age groups and survivals of all such patients treated at the centre during the past two years.

Malignant cases only.

Region	Year	No. referred	No. treated	Sex	Age Groups									Alive end of 1933		Alive end of 1934	
					0 / 20	20 / 30	30 / 40	40 / 50	50 / 55	55 / 60	60 / 65	65 / 70	Over 70	No.	Per-cent-age	No.	Per cent-age
Mouth and tongue	1933	17	12	M. 11	–	–	–	–	1	2	4	1	3	8	66%	6	50%
				F. 1	–	–	–	–	–	–	–	–	1				
	1934	17	10	M. 7	–	–	–	–	–	2	1	1	3			7	70%
				F. 3	–	–	–	1	–	–	–	1	1				
Upper air passages	1933	8	7	M. 5	–	–	–	1	1	1	1	–	1	6	85%	5	71%
				F. 2	–	–	1	–	–	1	–	–	–				
	1934	10	9	M. 6	–	–	–	–	–	1	1	3	1			8	88%
				F. 3	–	–	–	–	1	1	1	–	–				
Breast	1933	17	7	M. –	–	–	–	–	–	–	–	–	–				
				F. 7	–	–	–	1	1	1	3	–	1	6	85%	4	57%
	1934	29	14	M. –	–	–	–	–	–	–	–	–	–				
				F. 14	–	–	–	4	1	2	3	3	1			13	92.8%
Female genital	1933	41	33	M. –	–	–	–	–	–	–	–	–	–				
				F. 33	–	–	4	11	5	7	3	–	3	25	76%	13	39%
	1934	34	30	M. –	–	–	–	–	–	–	–	–	–				
				F. 30	–	–	3	8	6	6	3	2	2			26	86%
Rectum and anus	1933	4	–	M. –	–	–	–	–	–	–	–	–	–				
				F. –	–	–	–	–	–	–	–	–	–	–	—	–	—
	1934	11	2	M. 2	–	–	–	–	1	–	1	–	–		2	2	100%
				F. –	–	–	–	–	–	–	–	–	–				
Lip	1933	18	15	M. 14	–	–	–	–	1	–	4	4	5	15	100%	11	73%
				F. 1	–	–	–	–	–	–	1	–	–				
	1934	16	15	M. 15	–	–	–	–	–	1	4	2	8			13	86%
				F. –	–	–	–	–	–	–	–	–	–				
Skin	1933	12	9	M. 6	–	–	–	–	1	2	1	2	–	9	100%	7	77%
				F. 3	–	–	–	–	–	–	–	1	2				
	1934	11	10	M. 8	–	–	–	3	1	–	–	1	3			10	100%
				F. 2	–	–	–	–	1	–	–	1	–				
General	1933	26	16	M. 13	1	–	1	2	2	2	2	1	2	12	80%	6	37%
				F. 3	–	–	–	1	–	1	–	–	1				
	1934	52	31	M. 26	–	–	–	3	2	5	5	7	4			25	80.6%
				F. 5	1	–	–	2	–	–	–	1	1				
Totals	1933	143	99	M. 49	1	–	1	3	6	7	12	8	11	81	82%	52	52.5%
				F. 50	–	–	5	13	6	10	7	1	8				
	1934	180	121	M. 64	–	–	–	6	4	9	12	14	19			104	85.9%
				F. 57	1	–	3	15	9	9	7	8	5				

TUBERCULOSIS.

Comparative Rates per 1,000 Population.

City of	Per 1,000 population all causes	
	Case rate	Death rate
Birmingham	1.36	.79
Liverpool	2.87	1.15
Manchester	1.79	1.14
Sheffield	2.93	.76
Leeds	1.62	.95
Bristol	**1.64**	**.86**
Bradford	1.16	.82
West Ham	1.4	.97
Nottingham	1.23	.89
Portsmouth	1.51	.96
Cardiff	2.21	1.15
Plymouth	1.51	.99

Comparative statistics.

The tuberculosis case and death rates for Bristol again compare favourably with similar rates for eleven industrial towns of comparable dimensions, throughout the country. The case rate which was 1.64 per 1,000 population—a decrease of .11 on last year—ranks eighth in this list, while the death rate (.86 per 1,000 population) is bettered only by Birmingham (.79) and Bradford (.82). This rate is an improvement of .09 per 1,000 on last year's rate. The decline in both rates is due entirely to the drop in the number of pulmonary tuberculosis notifications and deaths, the corresponding rates for non-pulmonary tuberculosis remaining the same as last year—.41 and .13 per 1,000 respectively.

1933	Statistics	Pulmonary	Non-pulmonary	Total 1934
708	New cases	505	169	674
3,863	Total on Register... ...	2,912	947	3,859
3,209	Dispensary patients ...	2,538	753	3,291
10,990	Dispensary attendances ...	—	—	7,816
650	Sanatoria discharges ...	424	107	531*
390	Deaths	301	52	353

* Excluding observation cases.

Age periods	New cases				Deaths			
	pulmonary		non-pulmonary		pulmonary		non-pulmonary	
	M.	F.	M.	F.	M.	F.	M.	F.
0	—	—	—	1	—	—	—	1
1	4	2	17	13	1	1	4	9
5	9	6	17	22	1	—	6	1
10	9	10	15	16	—	1	3	2
15	15	33	4	7	7	9	2	4
20	36	48	4	11	16	24	—	4
25	52	63	4	12	39	42	5	2
35	55	35	8	6	19	29	—	2
45	46	23	3	3	45	25	2	1
55	29	14	—	1	18	12	—	—
65 and upwards	5	11	3	2	6	6	2	2
Totals ...	260	245	75	94	152	149	24	28
Ratio of non-notified deaths					1–19	1–13.6	1–24	1–2.3

Cases.

During the year under review 674 fresh cases of tuberculosis came to the knowledge of the department, a decrease of 34 on last year. Of these 617 were duly notified under the regulations. Pulmonary cases numbered 505 or 74 per cent. of the total. With the exception of 1933 when there was an increase of 34 cases the number of cases has been steadily falling since 1918. There was no instance of wilful neglect or refusal to notify cases of tuberculosis. The average annual number notified in Bristol during the past five years is less than half the number registered in the war years viz.,

Average	Pulmonary tuberculosis.	Other forms of tuberculosis.
1914/1918 ...	1,238	307
1931/1934 ...	499	139

Sanatorium admissions increased during the year by 12 to 783 all of which for the first time were accommodated in local sanatoria and there remain only three cases admitted prior to 1934 undergoing treatment in sanatoria or hospitals outside the city. The total number of names on the tuberculosis register on December

31st was 3,859, a decrease of four on the number registered on the same date last year and 3,291 of these cases were under supervision at the tuberculosis dispensaries. Forty-two grants of milk (one quart per day) were made to tuberculous patients on the recommendation of the tuberculosis officer.

Deaths.

The number of deaths from all forms of tuberculosis fell by 37 to 353 including 301 cases of respiratory tuberculosis. These include 41 deaths of persons whose tubercular condition had not previously been notified—19 pulmonary cases : eight males and eleven females and 22 non-pulmonary cases, 10 males and 12 females giving a ratio of non-notified tuberculous deaths to total tuberculous deaths compared with last year of :—

	Males.		Females.	
	1934	1933	1934	1933
Pulmonary ...	1 in 19	1 in 12.2	1 in 13.6	1 in 15.3
Non-pulmonary	1 in 2.4	1 in 2.5	1 in 2.3	1 in 2.3

Public Health (Prevention of Tuberculosis) Regulations, 1925.

Under these regulations any person suffering from tuberculosis of the respiratory tract, and in an infectious state, shall not enter upon any employment or occupation in connection with a dairy, which would involve the milking of cows, treatment of milk, or the handling of vessels used for the containing of milk, and the Council may call upon such person to discontinue his employment.

No case requiring action under these regulations came to the notice of the department during the year.

Public Health Act, 1925. *Section* 62.

Under this Act an order may be made by a court of summary jurisdiction for the removal to hospital of any person suffering from pulmonary tuberculosis in an infectious state, where it can be proved that the accommodation provided for such person is such that proper precautions to prevent the spread of infection cannot be taken, or that such precautions are not being taken, and that serious risk of infection is thereby caused to other persons.

The necessity of applying to a court for an order under this Act did not arise during the year.

The tables which follow give particulars of cases and deaths from tuberculosis in the area (including port cases) by annual totals for the years 1924-1934 ; deaths classified according to occupations with percentage to total deaths ; sanatoria admissions and discharges ; and the extent of residential treatment during the year. In addition there is the report of the tuberculosis officer which details in tabular form particulars of the work performed at the dispensaries and in the homes by the staff employed in this section, including returns showing the number of cases examined and treated and the immediate results of treatment of patients discharged from residential institutions during the year.

NOTIFICATIONS AND DEATHS FROM PULMONARY AND OTHER FORMS OF TUBERCULOSIS, 1924-1934.

Year	Cases, Deaths, with attack and death rate per 1,000	Pulmonary tuberculosis	Other forms of tuberculosis
1924	Notifications etc. ...	797 (2.06)	203 (0.52)
	Deaths	364 (0.94)	73 (0.18)
1925	Notifications, etc. ...	742 (1.92)	173 (0.44)
	Deaths	367 (0.95)	98 (0.25)
1926	Notifications, etc. ...	754 (1.94)	195 (0.50)
	Deaths	374 (0.97)	60 (0.15)
1927	Notifications, etc. ...	783 (2.28)	180 (0.46)
	Deaths	397 (1.03)	67 (0.17)
1928	Notifications, etc. ...	704 (1.80)	177 (0.45)
	Deaths	338 (0.86)	51 (0.13)
1929	Notifications, etc. ...	620 (1.58)	177 (0.45)
	Deaths	402 (1.02)	63 (0.16)
1930	Notifications, etc. ...	610 (1.55)	106 (0.27)
	Deaths	396 (1.01)	57 (0.14)
1931	Notifications, etc. ...	613 (1.53)	152 (0.38)
	Deaths	358 (0.89)	48 (0.12)
1932	Notifications, etc. ...	506 (1.25)	168 (0.42)
	Deaths	294 (0.73)	40 (0.10)
1933	Notifications, etc. ...	540 (1.34)	168 (0.41)
	Deaths	336 (0.82)	54 (0.13)
1934	Notifications, etc. ...	505 (1.23)	169 (0.41)
	Deaths	301 (0.73)	52 (0.12)

DEATHS FROM ALL FORMS OF TUBERCULOSIS OCCURRING IN 1934 CLASSIFIED ACCORDING TO OCCUPATION.

Occupation	Deaths	
	Number	Percentage of total deaths
House workers ...	88	24.9
Labourers & dockers	30	8.5
Shop assistants ...	18	5.1
Outdoor workers ...	20	5.7
No occupation ...	31	8.8
Clerks, typists, etc.	19	5.4
School age ...	15	4.2
Various ...	40	11.3
Metal workers ...	4	1.1
Infants ...	15	4.2
Food trades, etc. ...	11	3.1
Tobacco workers...	9	2.6
Seamen ...	4	1.1
Printers, etc. ...	6	1.7
Leather workers ...	7	2.0
Wood workers ...	2	.6
Tailors ...	7	2.0
Teachers ...	5	1.4
Motor drivers ...	7	2.0
Domestic servants	12	3.4
Boxmakers ...	3	0.9

SANATORIA AVAILABLE FOR IN-PATIENT TREATMENT, 1934.

	No. of Beds	Admitted			Discharged or Transferred			Died		
		M.	F.	T.	M.	F.	T.	M.	F.	T.
Pulmonary—early cases :										
Winsley Sanatorium, nr. Bath	58	78	54	132	74	50	124	2	1	3
*Ham Green Sanatorium, Pill, near Bristol	52	88	92	180						
Pulmonary and non-pulmonary —advanced cases.					106	116	222	52	52	104
*Ham Green Sanatorium ...	108	88	90	178						
*Southmead Hospital ...	68	90	72	162	69	68	137	25	14	39
Pulmonary and non-pulmonary —children (under 16).										
*Frenchay Park Sanatorium, Frenchay, nr. Bristol ...	96	72	59	131	77	61	138	4	1	5
Non-pulmonary cases.										
Cossham Hospital, Kingswood Bristol	9	—	—	—	1	3	4	2	—	2
	TOTALS 416	367	783		327	298	625	85	68	153

* Institution belonging to the Council.

Tuberculosis Dispensaries.

Report by C. J. CAMPBELL FAILL, F.R.C.P., Ed.,
Tuberculosis Officer.

Situation of dispensary—

4 Redcliffe Parade West.

Summary for year 1934.

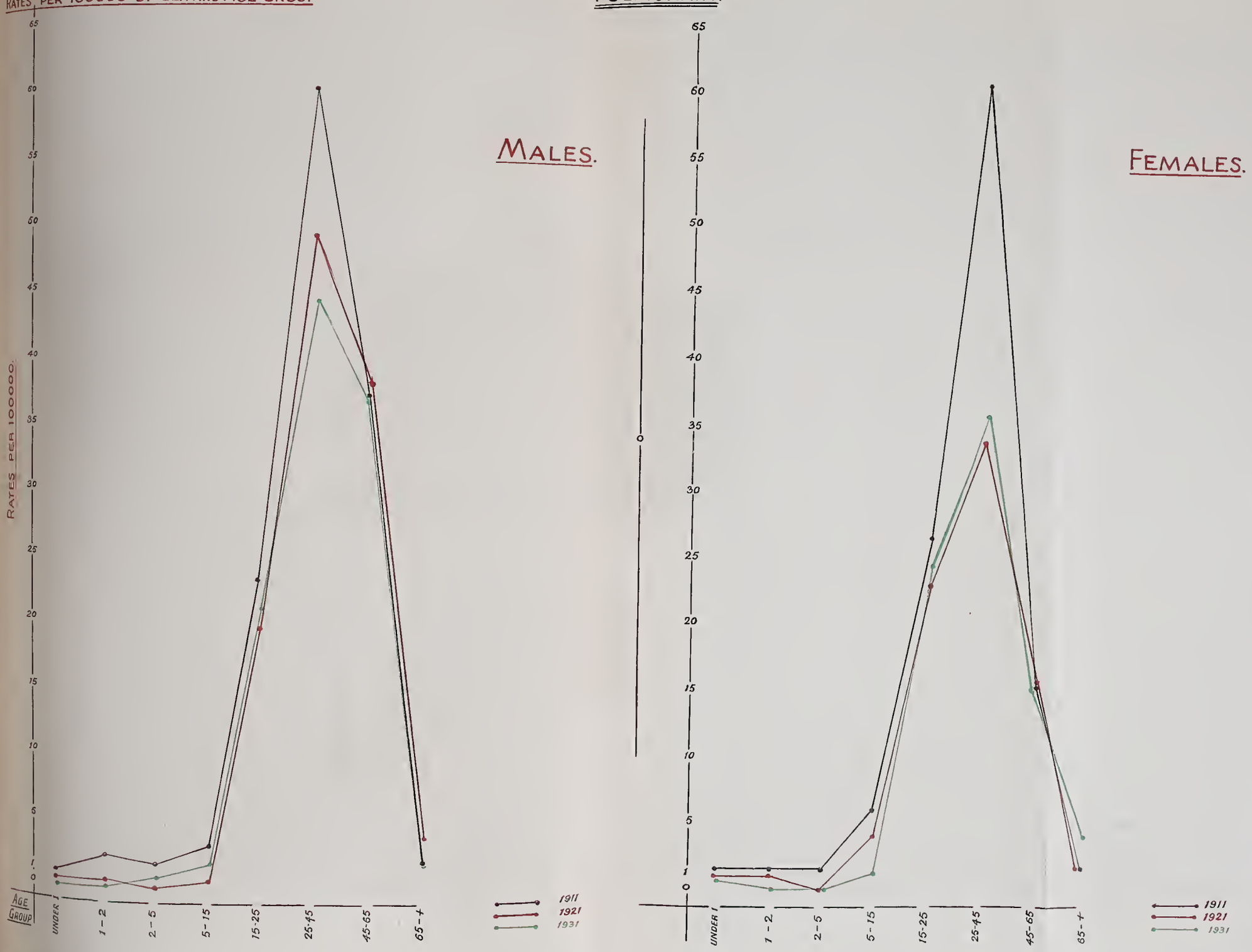
Two thousand seven hundred (2,700) old and new patients were examined at the dispensaries during the year. The following summary shows the initial treatment recommended for these cases :

1933 Total		Patients New	Patients Old	1934 Total
807	Sanatorium treatment	469	260	729
133	Dispensary treatment	43	205	248
898	Supervision and observation ...	65	497	562
48	Light treatment ...	2	12	14
235	Domiciliary treatment	17	193	210
1,039	No treatment required	617	338	955
3,160	Total ...	1,213	1,487	2,700

TUBERCULOSIS DEATHS.

RATES PER 100000 BY SEX AND AGE GROUP

PULMONARY.



1933		1934
4,959	Total number of examinations	2,433
3,369	Total attendances of school children	1,921
328	Total injections	412
356	Artificial pneumothorax	368
5,854	No. of visits to patients by tuberculosis nurses and health visitors	6,805
127	No. of cases seen by consulting surgeon	132
201	No. of attendances of cases seen by consulting surgeon	204
56	No. of cases seen by ear, nose and throat surgeon	83
117	No. of attendances of cases seen by ear, nose and throat surgeon	148
1,843	No. of attendances for ultra-violet light treatment	433

Seven hundred and twenty two (722) children of school age were examined during the year. Of these, 376 were old cases attending for re-examination and 346 were new cases. Of the latter, 21.3 per cent. were diagnosed as definite cases of tuberculosis, 8.7 per cent. as suspects, and 70 per cent. as non-tuberculous. The total number of examinations of school-children was 1,084.

Of the total deaths in the city from all forms of tuberculosis, 29.7 per cent. occurred in sanatoria or hospitals controlled by the public health authority.

For many years past the Health Committee has loaned shelters to tubercular patients who possess suitable gardens for their erection. These shelters are regularly inspected and kept in repair. At the end of the year nine shelters were in use.

The dispensary work during the year 1934 was carried out under conditions of considerable difficulty and inconvenience. The lease of 19 Portland Square—the principal dispensary—expired in March and was not renewed. The bulk of the work was transferred to Redcliffe Dispensary, a building which had been found inadequate in 1914. The X-ray apparatus was transferred to Southmead Hospital which is six miles from the dispensary. As the ultra violet lamps in Portland Square dispensary had been condemned as dangerous by the electrical engineer they were scrapped and new lamps purchased. These have now been installed in Southmead Hospital but as they have been in use only a very short time no figures for 1934 are given.

As the population of Bristol has varied a good deal owing to rather irregular extension of the city boundaries I consider that deductions from our annual figures may easily be inaccurate. I have therefore prepared a graph of the deaths from pulmonary tuberculosis per 100,000 living in each age group for the three census years 1911, 1921, 1931. It will be seen that there is a very considerable improvement on the whole, but that as in many other places Bristol experienced a slight increase in female deaths between the ages of 15 and 45. These are the child bearing years and in fact many of these deaths are associated with pregnancy and the puerperium. One cannot ignore the possibility that "summer time" with the curtailment of hours of rest may be the deciding

factor in some young adult cases, and last summer three cases of haemoptysis followed by acute disease in young adult females could only be attributed to injudicious sun-bathing.

Treatment.

As it is practically certain that the tuberculosis of a race begins in the nursery and school-room much of the dispensary time and energy are occupied in the search for the earliest manifestations in child contacts. These cases when found merit the utmost care. The immediate results of sanatorium treatment are uniformly good and often amazing, but the ultimate result is of greater importance to the community. It is hoped by treatment in the earliest stages to encourage the child to establish in his own body a resistance capable of meeting and overcoming the subsequent effects of tuberculous infection which are serious and frequently fatal in early adult life.

We are engaged on an investigation into the incidence of manifest disease among contacts of open cases which it is hoped to incorporate in next year's annual report.

It cannot be repeated too often that the bed-rock on which all treatment of tuberculosis affecting any organ rests in what is known as "routine sanatorium treatment." This may sound simple and easy but to carry out sanatorium treatment as it should be carried out demands of the whole staff of the institution a much higher standard than is generally supposed of skill, experience, tact and above all patience. An individual suffering from active tuberculosis is frequently very temperamental, but if handled aright can be coaxed along the very difficult road he has to travel. Treatment enforced on an unwilling or semi-mutinous patient is useless and not worth the energy expended.

Collapse therapy.

Of all the additions to routine treatment this procedure has given the most favourable and in some cases dramatic results. A word of warning is necessary here—artificial pneumothorax is not, and can never be a substitute for sanatorium treatment. It is a valuable adjuvant. Except in special cases such as persistent haemoptysis or diabetes an artificial pneumothorax should not be induced until after a reasonable period (at least six weeks) of absolute rest has failed to improve the patient. It is obvious that a patient who has made a good recovery, and very many do, without having had a lung collapsed is in better case than one whose lung has been collapsed.

My colleague, Dr. Currie, has prepared a very interesting report on our experience of artificial pneumothorax which is appended.

In a certain number of cases it is found impossible to get any air into the pleural cavity on account of dense adhesions. Some of these patients are suitable for thoracoplasty, but this is a very drastic and highly specialised surgical procedure which we have not developed to any extent in Bristol.

In a number of cases only a partial collapse is obtainable, the lung being held out by a single adhesion. It is sometimes possible

to cut this adhesion by an electro-cautery and thus get complete collapse. This is an extension of collapse therapy which we have not yet undertaken, but which we hope to develop in the future.

The operation of phrenic evulsion has proved very valuable in some selected cases.

Gold.

Treatment by various preparations of gold has been given to a number of cases, with on the whole disappointing results. Dr. Peters the medical superintendent of Ham Green Sanatorium has prepared a report which suggests that routine sanatorium treatment gives as good results alone as when gold is added. Nevertheless it must be admitted that we have all seen marked improvement in individual cases that could only be attributed to the administration of gold.

Tuberculin.

We have continued to use tuberculin in selected cases with entirely satisfactory results.

Account of 75 *patients suffering from pulmonary tuberculosis treated by artificial pneumothorax in the years between* 1925 *and* 1934 *inclusive.*

The artificial pneumothorax has in nearly every instance been induced in one or other of the various sanatoria in Bristol, i.e., Winsley Sanatorium, Ham Green Sanatorium, Frenchay Park Sanatorium, or Southmead Hospital. The continuation of the treatment by regular refills of the artificial pneumothorax has been carried out at the Tuberculosis Dispensaries, and latterly at Southmead Hospital.

No details of the technique used are given in this summary. Suffice it to say that ordinary routine methods and apparatus were used in practically every case. No serious complications occurred except in one case which developed air embolism with cerebral symptoms. Fortunately the patient recovered but died later of advanced pulmonary tuberculosis.

It has been found that adjuvants to ordinary collapse therapy such as phrenic nerve operations have been refused by most patients as they consider thay have enough done when they submit to the operations of refilling every fortnight approximately.

The high mortality rate (vide table), can to some degree be accounted for by the number of patients in whom the treatment was performed, either because they were not improving under sanatorium routine treatment, or because the type was not suitable for such treatment. A good number of these were inevitably doomed, irrespective of any therapeutic measures which could be taken.

The selection of cases suitable for this treatment remains extremely difficult in spite of the immense amount written about it. In Bristol the cases are selected by different people in sanatoria and in dispensary so naturally results vary.

On studying the percentages one striking fact emerges, viz. : the high number of those living who are at, or are fit for work. Numerous deductions can be made from the table, but perhaps it is better to let it speak for itself.

Patients	Number	Percentages of total number.	Percentage of living
Living	48	64%	—
Dead	27	36%	—
Males	36	48%	—
Females	39	52%	—
Sputum T.B.+	58	77%	—
,, T.B.—	17	23%	—
Age group 14—20 years ...	20	26%	—
,, ,, 20—30 ,, ...	48	64%	—
,, ,, 30—40 ,, ...	8	10%	—
Family history bad	32	42.6%	—
Quiescent and at work or fit for work	37	49.3%	—
Improved, not at work or not fit for work	11	14.7%	—
Percentage allowed to expand after 2—3 years treatment	20	26.6%	41.7%
Percentage of unavoidable termination due to complications, viz. :— adhesions, fluid, pus, disease in contralateral lung and disease of larynx of those living	28	37.5%	58.3%

Additional facts of interest are appended regarding 67 patients :—

Refills.		Average no. of refills per patient.
In sanatoria (approximately)	696	10.3
In dispensary	985	14.7
Total ...	1,681	
Average number of refills per patient ...	25	

Return showing the work of the Dispensaries during the year 1934.

Diagnosis	Pulmonary.				Non-pulmonary.				Total.				Grand Total.
	adults		children		adults		children		adults		children		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	
A.—New Cases examined during the year (excluding contacts) :													
(*a*) Definitely tuberculous	194	175	16	14	15	22	28	23	209	197	44	37	487
(*b*) Diagnosis not completed	..	..	..	..	..	..	..	..	6	5	20	12	43
(*c*) Non-tuberculous ..	..	..	..	..	..	..	..	..	103	123	79	48	353
B.—Contacts examined during the year :—													
(*a*) Definitely tuberculous	4	5	1	3	..	..	4	4	4	5	5	7	21
(*b*) Diagnosis not completed	..	..	..	..	..	..	..	..	1	..	..	..	1
(*c*) Non-tuberculous ..	..	..	..	..	..	..	..	..	54	102	92	88	336
C.—Cases written off the dispensary register as :—													
(*a*) Recovered	63	52	3	3	8	12	7	3	71	64	10	6	151
(*b*) Non-tuberculous ..	..	..	..	..	..	..	..	..	172	242	181	150	745
D.—Number of cases on dispensary register on December 31st :—													
(*a*) Definitely tuberculous	1172	1041	200	125	153	176	232	192	1325	1217	432	317	3291
(*b*) Diagnosis not completed	..	..	..	..	..	..	..	..	6	7	22	11	46

1. Number of cases on Dispensary Register on January 1st ..	3,228	2. Number of cases transferred from other areas and cases returned after discharge under head 3 in previous years	156
3. Number of cases transferred to other areas, cases not desiring further assistance under the scheme, and cases " lost sight of " ..	108	4. Cases written off as dead during the year (all causes)	284
5. Number of attendances at the Dispensaries (including contacts) ..	7,816	6. Number of Insured Persons under domiciliary treatment on 31st December	335
7. Number of consultations with medical practitioners : (*a*) Personal .. .. (*b*) Other	34 1,217	8. Number of visits by tuberculosis officers to homes (including personal consultations) ..	454
9. Number of visits by nurses or health visitors to homes for dispensary purposes	*6,805	10. Number of : (*a*) Specimens of sputum, etc., examined .. .. .. (*b*) X-ray examinations made in connection with dispensary work	1,026 1,173
11. Number of "recovered" cases restored to dispensary register and included in A (*a*) and A (*b*) above	6	12. Number of "T.B. plus" cases on dispensary register on December 31st	751

* Including Public Health (Tuberculosis) visits.

Return showing the immediate results of treatment of definitely tuberculous patients discharged from residential institutions during the year 1934.

Classification on admission to the Institution.		Condition at time of discharge.	Duration of residential treatment in the institution.															Grand Totals
			Under 3 months			3—6 months.			6—12 months.			More than 12 months			Totals			
			M.	F.	Ch.	M.	F.	Ch	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Pulmonary tuberculosis	Class T.B. minus.	Quiescent	14	17	4	34	27	14	10	2	6	2	2	..	60	48	24	132
		Not quiescent ..	3	7	..	5	3	..	1	..	..	..	1	..	9	11	..	20
		Died in institution	2	1	..	1	..	..	3	1	..	..	..	..	6	2	..	8
	Class T.B. plus group 1.	Quiescent	1	..	..	5	3	..	..	3	..	..	..	..	6	6	..	12
		Not quiescent ..	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group 2.	Quiescent	5	2	..	5	7	..	5	5	..	1	..	..	16	14	..	30
		Not quiescent ..	2	1	..	8	5	1	3	3	..	..	1	..	13	10	1	24
		Died in institution	1	1	..	1	1	..	..	1	..	..	..	..	2	3	..	5
	Class T.B. plus group 3.	Quiescent	6	3	..	17	7	..	10	8	..	5	..	..	38	18	..	56
		Not quiescent ..	11	19	1	23	22	..	15	17	..	4	3	1	53	61	2	116
		Died in institution	22	18	..	10	11	..	8	7	..	4	2	..	44	38	..	82
Non-pulmonary tuberculosis	Bones and joints.	Quiescent	3	5	2	1	2	2	2	3	5	1	2	12	7	12	21	40
		Not quiescent ..	..	1	..	..	1	..	..	..	..	..	..	1	..	2	1	3
		Died in institution	..	..	1	..	..	1	..	..	..	2	..	1*	2	..	3	5
	Abdominal	Quiescent	..	1	4	2	1	8	..	1	3	..	1	1	2	4	16	22
		Not quiescent ..	..	3	1	..	..	1	..	..	..	..	..	..	..	3	2	5
		Died in institution	..	2	..	1	..	..	..	..	..	..	..	..	1	2	..	3
	Other organs	Quiescent	1	1	1	1	..	2	..	..	..	..	1	1	2	2	4	8
		Not quiescent ..	..	..	..	..	..	1	..	..	..	..	..	..	..	..	1	1
		Died in institution	..	..	..	..	1	..	..	1	..	1	..	..	1	2	..	3
	Peripheral glands	Quiescent	..	3	4	..	2	8	..	1	2	..	..	..	..	6	14	20
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

* One case died—cessation of respiration whilst under the influence of an anaesthetic due to pressure of an enlarged thymus gland on the windpipe.—*P.M. Inquest.*

Return showing the results of observation of doubtfully tuberculous cases discharged from residential institutions during the year 1934.

Diagnosis on discharge from observation.	Pulmonary Tuberculosis						Non-Pulmonary Tuberculosis						Totals.		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.
Tuberculous	1	2	...	...	...	2	...	1	1	...	...	1	1	3	4
Non-tuberculous	*5	2	2	†16	7	17	1	...	5	2	3	28	24	12	52
Doubtful	...	...	...	...	1	1	...	...	...	...	...	1	...	1	2
Totals	6	4	2	16	8	20	1	1	6	2	3	30	25	16	58

* One case died—lobar pneumonia.

† „ „ „ —cerebral embolism—aortitis—syphilis.
† „ „ „ —mediastinal neoplasm.
† „ „ „ —abscess of left lung—bronchiectasis.
† „ „ „ —broncho-pneumonia—septicaemia.

VENEREAL DISEASES.

1933	Treatment centre.	1934
1,039	New patients	1,162
236	Syphilis	267
5	Soft chancre	4
458	Gonorrhoea	493
340	Non-venereal	398
2,172	Total patients	2,057
53,988	Total attendances	55,329
872	Under treatment at end of year	660
707	Syphilis	543
0	Soft chancre	0
165	Gonorrhoea	117
5,906	Intravenous injections of salvarsan substitute	7,384
70	Inpatients	67

There has been no change in the local arrangements for the treatment of venereal disease, as set forth in my report for 1930. In the tables which follow, the medical director of the treatment centre (S. Hardy Kingston, M.B., Ch.B., D.P.H.) gives full particulars of the numbers, types, treatment, pathological examinations and attendances from each area for the year 1934. The number of new patients showed an increase of 123 on the previous year, while the number of patients treated declined by 115. Attendances, however, again increased by 1,341 to 55,329, including attendances

made by 398 non-venereal cases under the routine system of examination whenever possible of members of the family of true cases. A large proportion of these family examinees were found to be free of the disease. At the end of the period under review 660 patients remained under treatment at the centre. During the year intravenous injections of salvarsan substitute increased by 1,478 and 67 patients were admitted to the institution for residential treatment (29 women and 38 men).

Twenty-six (26) medical practitioners in the city are recognised for the purpose of obtaining free of charge from the Corporation approved substitutes for salvarsan and specimens were submitted by private practitioners for examination at the laboratory of the department of preventive medicine at the Bristol University. Forty nine (49) meetings were addressed during the year by members of the panel of lecturers kept by the medical officer of health.

The staff at the treatment centre remains as previously published, viz. :—medical director, four assistant medical officers, one sister, four nurses, three domestic staff and two orderlies.

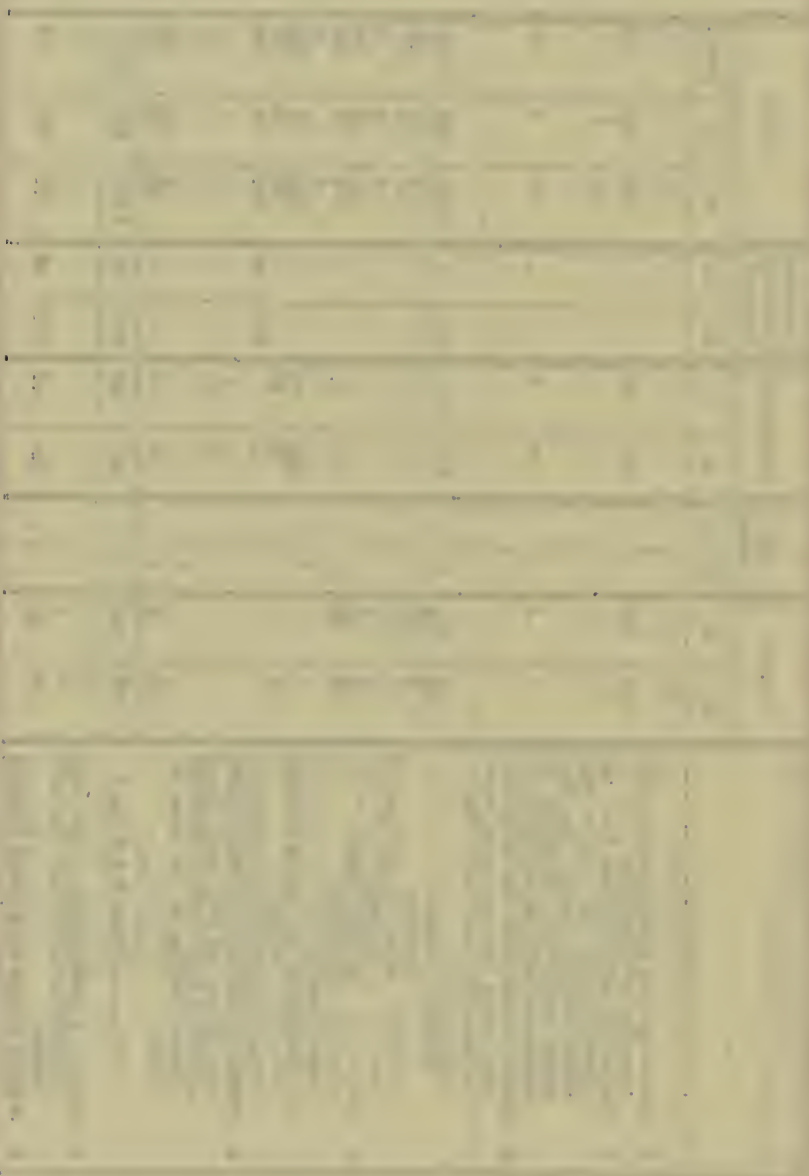
Venereal Disease Clinic.

Statement showing the services rendered at the treatment centre during the year 1934.

	Syphilis		Soft Chancre		Gonorrhoea		Conditions other than Venereal		Totals		
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.	Totals
1. Number of cases on 1st January under treatment or observation	501	206	..	..	108	57	..	..	609	263	872
2. Number of cases removed from the register during any previous year which returned during the year under report for treatment or observation of the same infection	3	4	..	..	13	3	..	..	16	7	23
3. Number of cases dealt with for the first time during the year under report (exclusive of cases under item 4) suffering from :—											
Syphilis, primary	65	12	..	..	..	..	..	..	65	12	77
,, secondary	4	17	..	..	..	..	..	..	4	17	21
,, latent in 1st year of infection	2	2	..	..	..	..	..	..	2	2	4
,, all later stages	56	34	..	..	..	..	..	..	56	34	90
,, congenital	6	23	..	..	..	..	..	..	6	23	29
Soft Chancre	..	..	3	..	..	..	..	..	3	..	3
Gonorrhoea, 1st year of infection	..	..	..	..	326	64	..	..	326	64	390
,, later	..	..	..	..	28	10	..	..	28	10	38
Conditions other than venereal	..	..	..	..	..	..	302	96	302	96	398
4. Number of cases dealt with for the first time during the year under report known to have received treatment at other Centres for the same infection	39	7	1	..	53	12	..	..	93	19	112
Totals of Items 1, 2, 3 and 4	676	305	4	..	528	146	302	96	1,510	547	2,057
5. Number of cases discharged after completion of treatment and final tests of cure	26	23	..	..	224	42	302	96	552	161	713
6. Number of cases which ceased to attend before completion of treatment and were, on first attendance, suffering from :—											
Syphilis, primary	49	6	..	..	..	..	..	..	49	6	55
,, secondary	4	7	..	..	..	..	..	..	4	7	11
,, latent in 1st year of infection	4	..	..	..	..	..	..	..	4	..	4
,, all later stages	50	15	..	..	..	..	..	..	50	15	65
,, congenital	3	12	..	..	..	..	..	..	3	12	15
Soft Chancre	..	..	1	..	..	..	..	..	1	..	1
Gonorrhoea, 1st year of infection	..	..	..	..	86	24	..	..	86	24	110
,, later	..	..	..	..	22	6	..	..	22	6	28
7. Number of cases which ceased to attend after completion of treatment but before final tests of cure	62	3	..	..	42	2	..	..	104	5	109
8. Number of cases transferred to other centres or to institutions, or to care of private practitioners	135	39	3	..	84	25	..	..	222	64	286
9. Number of cases remaining under treatment or observation on 31st December	343	200	..	..	70	47	..	..	413	247	660
Totals of Items 5, 6, 7, 8 and 9	676	305	4	..	528	146	302	96	1,510	547	2,057
10. Number of cases in the following stages of syphilis included in Item 6 which failed to complete one course of treatment :—											
Syphilis, primary	22	2	..	..	..	..	..	..	22	2	24
,, secondary	1	2	..	..	..	..	..	..	1	2	3
,, latent in 1st year of infection	3	..	..	..	..	..	..	..	3	..	3
,, all later stages	20	6	..	..	..	..	..	..	20	6	26
,, congenital	3	4	..	..	..	..	..	..	3	4	7
11. Number of attendances :—											
(*a*) for individual attention of the medical officers	6,452	3,947	12	..	5,734	1,030	684	251	12,882	5,228	18,110
(*b*) for intermediate treatment, e.g., irrigation, dressing	734	645	..	..	30,993	4,847	..	..	31,727	5,492	37,219
Total Attendances	7,186	4,592	12	..	36,727	5,877	684	251	44,609	10,720	55,329
12. In-patients :—											
(*a*) Total number of persons admitted for treatment during the year	10	22	..	..	19	16	..	..	29	38	67
(*b*) Aggregate number of "in-patient days" of treatment given	311	567	..	..	488	11,23	..	..	799	1,690	2,489

	Under 1 year		1 and under 5 years		5 and under 15 years		15 years and over		Totals.	
	M.	F.	M.	F.	M.	F.	M.	F.	M.	F.
13. Number of cases of congenital syphilis in Item 3 above classified according to age periods	1	2	..	2	3	6	2	13	6	23

	Arsenobenzene Compounds	Mercury	Bismuth
14. Chief preparations used in treatment of Syphilis :—			
(*a*) Names of preparations	Stabilarsan, Sulphostab Silver, Salvarsan, N.A.B.	..	Chlorostab, Quinostab
(*b*) Total number of injections given (out-patients and in-patients)	7,384	..	6,690



Venereal Disease Clinic.

Pathological Examinations.

1934	Microscopical		Serum Tests		
	for spirochetes	for gonococci	Wassermann	Others for syphilis	for Gonorrhoea
Examinations of pathological material :—					
(*a*) Specimens which were examined at, and by the medical officer of, the treatment centre	40	—	—	—	—
(*b*) Specimens from persons attending at the treatment centres which were sent for examination to an approved laboratory	—	1,827	1,985	20	867

No. of attendances from each area.

Name of county or county borough—	Bristol	Somerset	Gloucester shire	Wiltshire	Devon-shire	London	Newport	Others	Total
A. Number of cases from each area dealt with during the year *for the first time* and found to be suffering from :									
Syphilis	243	14	5	—	1	2	—	2	267
Soft chancre	4	—	—	—	—	—	—	—	4
Gonorrhoea	413	34	16	1	—	13	—	16	493
Conditions other than venereal ...	355	24	8	1	—	2	1	7	398
Total	1,015	72	29	2	1	17	1	25	1,162
B. Total number of attendances of all patients residing in each area ...	53,711	797	667	31	1	34	10	78	55,329
C. Aggregate number of "in-patient days" of all patients residing in each area ...	2,009	121	155	190	14	—	—	—	2,489
D. Number of doses of arsenobenzol compounds given in the out-patient clinic and the in-patient department to patients residing in each area ...	6,952	203	212	1	—	2	7	7	7,384

PREVENTION OF BLINDNESS.

1933	Statistics at 31st March	1934
639	Blind persons on register	620
51	Registered during year	40
120	Resident pupils in school	28
89	Workers and adult pupils in workshops	64
57	Homeworkers	8
18	Women resident in hostel	14
370	Blind persons visited by home teachers (not included above)	370
145	Unemployable blind assisted by grants ...	172
289	Exemptions Certificates held under Wireless Telegraphy (Blind persons' facilities) Act, 1926	298
36	Granted during year	34

My report for 1930 described the administrative scheme made under the Local Government Act, 1929, for the welfare and training of blind persons, the arrangements made to co-ordinate the work of the various committees of the Council and for securing the efficiency of the services delegated to voluntary associations.

This scheme, which deals with all necessitous blind persons including unemployable and other destitute blind persons, was amended on the 12th June, 1934 by increasing the scale of relief payable under the regulations from 16/6 to 18/- per week and in cases where both man and wife are blind and residing in the same house, from 25/- to 27/6 per week, as from the 1st July, 1934. Approximately 53 per cent. of the registered blind persons receive some form of assistance either from the Blind Asylum or the Blind School.

The question of continuing the supervision of myopic children, maintained by the Education Committee during school age, was considered during the year. About 16 such children leave the myopic school annually and thereafter are not subject to any official ophthalmic supervision. Nor is there any after-care regarding suitability of employment. The Blind Persons Committee agreed to be responsible for ophthalmic supervision after these children leave school. This will be carried out by the same consulting ophthalmologist (Dr. R. R. Garden) and in exactly the same manner as under the Education Committee, until the children become settled in life. Special sessions will be held at the school eye clinic; the first falls due in 1935. The Bristol Crippled Children's Society has agreed to add myopics to its list for home supervision.

During the year, inspections were made of the services provided by the Bristol Royal Blind Asylum, including the workshops in Park Street and the hostel for blind women workers in Woodland Road. The home for unemployable and middle-aged blind women in Gordon Road, Clifton, established by the National Institute for the Blind, was closed in June, 1934.

The arrangements made by the Bristol Royal Blind Asylum for the registration, certification, employment, training and welfare

of blind persons continue to be adequate and efficient. An improved system of registration has been adopted and the Blind Asylum have appointed a special sub-committee to consider the introduction of new trades. No new cases are added to the register before examination and certification in accordance with Form B.D.8 and practically all persons already on the register have now been re-examined by the ophthalmic surgeon. This revision of the register has resulted in the removal from the register of 44 persons found to be not blind within the meaning of the definition in the Blind Persons Act, 1920.

During the year ending 31st March, 1934, the Royal Blind Asylum have expended the sum of £10,632 9s. 3d. upon the education and training of blind persons and have incurred expenditure, anounting to £14,144 11s. 6d. for the provision of benefits to adult blind persons, towards which expenditure the Council contributed the sum of £7,729, this being the amount included in the scheme made under the Local Government Act, 1929. The Council have also expended a sum of £226 in respect of blind persons resident in the institutions of the Public Assistance Committee and have paid a further sum of £586 in respect of services rendered to blind persons in the city by various organisations and for medical inspection of blind persons.

The general manager of the Royal Blind Asylums Workshops commenting on the year's work states that—

" The main feature has been the improvement .in the scale of financial help to the unemployable blind. This has entailed an increased grant from the city Council and the numbers helped have increased as well as additional assistance to individuals. The general care of the unemployable blind has resulted in a decided improvement in their condition and outlook. This is particularly noticed by those who have had opportunities of observing this phase of our work over a period of say 15 to 20 years or more.

The attendance at the weekly social club for unemployable blind persons has been well maintained and improved. This and other social gatherings are most helpful."

Blind Persons Clinic.

Report by R. R. Garden, M.A., M.B., D.O.M.S., D.P.H., Certifying Ophthalmic Surgeon.

During 1934, a total of 32 sessions was held, including 30 clinics and two periods of home-visiting for the purpose of examining invalids.

The number of individual examinations was 129, including 64 new applicants and 65 cases under observation. Of the new candidates, 45 were certified as blind persons, while 19 had too much sight to be accepted. One of the new admissions to the register was a pupil of the Royal School for the Blind, Westbury-on-Trym, and another member of the same institution was de-certified on account of improved vision.

The following is a summary of the causes of blindness, as far as could be ascertained, in the new cases registered during the year :—

Congenital and undetermined causes—	
Congenital, hereditary and developmental ...	4
Myopic error	7
Glaucoma, primary	9
Cataract, primary	8
Other undetermined causes	2
Infectious and bacterial—	
Ophthalmia neonatorum	1
Syphilis, congenital	1
Local infections of coats of eye	1
Specific fevers	1
Tuberculosis	1
Chronic septicaemia : auto-toxic, focal sepsis ...	4
Traumatic and chemical—	
Non-industrial trauma	1
General diseases—	
Vascular diseases	2
Diseases of central nervous system	1
Diabetes	2
	45

In the course of the examinations, the applicants are advised as to any possibility of improving the sight, and during 1934 the number referred to institutions or given prescriptions for glasses was 24. Of this number, 16 were blind persons, and 8 were new candidates certified not blind. Such cases are kept under observation at suitable intervals, and facilities are provided to assist them in obtaining treatment where necessary.

IX.—ANNUAL REPORTS OF MEDICAL SUPERINTENDENTS OF CITY HOSPITALS, SANATORIA, Etc., AND OTHER OFFICERS IN CHARGE OF SECTIONAL DEPARTMENTS.

1. Ham Green Hospital and Sanatorium, by Dr. B. A. I. Peters, Medical Superintendent.
2. Frenchay Park Sanatorium and Orthopaedic Hospital, by Dr. Vida Stark, Medical Officer.
3. Southmead Hospital, by Dr. P. Phillips, Medical Superintendent.
4. Stapleton Institution, by Dr. S. Datta, Medical Officer.
5. Eastville Institution, by Dr. J. A. Lanson Roberts, Medical Officer.
6. Dental treatment in city hospitals and clinics, by Mr. Hanbury Hazell, joint Dental Surgeon.
7. Department of Preventive Medicine, by Dr. I. Walker Hall, Director.
8. Public Analytical Laboratory, by Mr. F. E. Needs, Public Analyst.

HAM GREEN HOSPITAL AND SANATORIUM.

Report by B. A. I. Peters, M.D., Cantab.,
Resident Medical Superintendent.

During 1934 the number of cases admitted rose to 1908, 205 more than last year due to some increased prevalence of scarlet fever and diphtheria.

Scarlet fever.

During the autumn a greatly increased number of cases were admitted compared with recent years. The disease showed several unusual features. The disease was extremely mild, only one fatal case occurred in 679 cases from septic endocarditis super-imposed on an old heart lesion. Relapses, or secondary attacks, were three times as numerous as usual, i.e., 3 per cent. The attacks usually occurred three weeks after the primary one. On three occasions children were discharged after one attack and came back between three to four weeks later with another attack. Return cases (18) or 2·6 per cent. were twice as frequent as we usually experience. Half of these cases were in twice the usual time owing to septic complications and three had had tonsils and adenoids removed to clear up unhealthy throats. All appeared normal on discharge, but in spite of this caused return cases. It would appear that the disease was so mild as to give incomplete immunity in many cases after their first attack, insufficient reaction appeared to be occurring to clear themselves of infection also. An unusually high proportion were found on admission to be carriers of diphtheria bacilli also causing a very persistent form of rhinitis. Severe complications were infrequent (four cases with mastoiditis, four with endocarditis). Due to our recent treatment, in part at least, only three cases of albuminuria and one case of nephritis occurred, (·4 per cent.) as compared with a former experience of 11 per cent. This form of treatment which has been in use for five years appears undoubtedly to be a considerable advance in arresting this dangerous complication.

Diphtheria.

Over the whole year the disease showed a lower proportion (12 per cent.) of malignant cases, but during the autumn a considerable increase in numbers and a recrudescence of severe cases occurred. The death rate for the year was 2·2 per cent, a very low rate for this disease. Our special methods of treatment have now been applied to 3,818 cases with 108 deaths (2·8 per cent.) during the last five years. This is half the death rate of the former five years. By this means we consider we have saved 100 lives in the past five years from this disease in Bristol compared with orthodox methods.

Tracheotomy was performed on four patients. The need for this operation has been very small for many years.

Puerperal fever and pyrexia.

Five cases were admitted and all recovered. They were treated by the same means as have been found successful in erysipelas

Ham Green Hospital.

Table of admissions and discharges, 1934.

Admissions as notified 1933		Remaining in hospital end of 1933	Admission as notified	Discharged						Discharged		Total	Mortality rate per cent.	Remaining in at end of 1934
				Diagnosis confirmed		With super-added infections		Total	Mortality rate per cent.	Diagnosis not confirmed.				
				recovered	died	recovered	died			recovered	died			
583	Scarlet fever ...	51	762	658	1	20	...	679	0.1	48	1	49	2.0	87
712	Diphtheria	64	813	623	15	22	...	660	2.2	69	5	74	6.7	136
8	Enteric fever ...	1	8	4	...	...	...	4	...	3	...	3	...	1
29	Whooping cough ...	2	63	54	8	1	...	63	12.7	1	...	1	...	2
157	Measles	7	83	75	6	9	...	90	6.6	3	1	4	25.0	...
76	Erysipelas	9	71	65	4	2	...	71	5.6	7	...	7	...	3
12	Broncho-pneumonia	1	14	9	2	...	...	11	18.0	1	...	1	...	3
45	Influenzal pneumonia	...	2	1	...	...	...	1	...	...	...	...	...	1
26	Lobar pneumonia ...	...	22	18	3	...	...	21	14.0	6	...	6	...	1
7	Mumps	2	...	...	...	...	...	...	...	...	...	...	...	...
	Influenza	...	4	3	...	...	...	3	...	...	...	...	...	...
1	Chicken pox ...	...	8	8	...	...	...	8	...	...	...	...	...	...
1	Dysentery	...	1	2	1	...	...	3	33.3	...	...	...	...	...
1	German measles ...	...	2	15	...	...	...	15	...	...	...	...	...	1
1	Cerebro-spinal fever	...	3	...	2	...	...	2	100.0	...	...	...	...	...
	Anterio Poliomyelitis	...	1	1	...	...	...	1	...	...	...	...	...	...
1	Malaria	...	...	2	...	...	...	2	...	...	...	...	...	...
3	Puerperal fever ...	...	2	2	...	...	...	2	...	...	...	...	...	...
	Puerperal Pyrexia ...	...	3	3	...	...	...	3	...	...	...	...	...	...
	Enceph. lethargica...	...	1	1	1	...	...	2	50.0	...	...	...	...	...
40	Mixed infections, other diseases, observation cases ...	1	45	14	1	...	...	15	6.6	7	...	7	...	3
1,703	Totals ...	138	1,908	1,558	44	54	...	1,656		145	7	152	...	238

("Public Health," June 1934). There are still some gaps in this line of treatment which we think could be filled by the collaboration of a whole time skilled organic or biochemist.

Operations.

One hundred and six (106) operations under general anaesthetics were performed by your surgical consultant staff.

Cross infection.

Two cases of diphtheria contracted scarlet fever and two contracted measles and one chicken pox, a percentage of ·25 of the total cases discharged.

Staff sickness.

One Schick-positive nurse developed diphtheria while being immunised, and one Dick-negative nurse developed a slight attack of scarlet fever.

Research.

The results of two years investigation of erysipelas was published in " Public Health," June 1934. Some years ago the Health Committee granted us some pieces of apparatus at the cost of about £50 to carry out a special line of research. From the discoveries made by the use of it (and a good deal of labour) we have reduced the diphtheria death rate by half, almost abolished the grave kidney complications of scarlet fever and made some advance in the treatment of streptococcal infections. We make these statements in no boasting spirit but to point out what an extremely profitable return can be made from a small expenditure on research.

It is difficult for officers with a whole time appointment to devote a great deal of time to research, as routine work fills most of the day. No one seems willing to pay whole time research workers in medical subjects. Commercial firms pay research chemists considerable sums to investigate their particular problems. It would seem essentially a duty for public authorities to finance such work. Several millions are being spent yearly in the treatment of tuberculosis from public funds and practically nothing on research. No real advance has been made in the treatment of that disease for a quarter of a century since the introduction of artificial pneumothorax, and yet this disease is still killing one person per day in Bristol alone.

In our own particular line of investigation we have come to a fence impassable except with the aid of a skilled biochemist. I acknowledge with gratitude the always willing help we have received from Professor Walker Hall and his staff in our problems as far as they can, but their time is largely filled with routine work.

Novers Hill Hospital.

The following cases were treated at this hospital during the year, scarlet fever 347, diphtheria 57, whooping cough 28, measles 3, chicken pox 2, total 437.

HAM GREEN SANATORIUM.

Table of admissions and discharges, 1934.

Remaining in sanatorium at end of 1933	Admitted	Discharged	Died	Remaining in sanatorium at end of 1934
109	358	221	105	141

Ham Green Sanatorium.

During the past year the very unsatisfactory wooden buildings have been replaced by two admirable permanent blocks for the reception of 72 patients. Both from the patients point of view and from the facilities provided for nursing them, we think these buildings suit their purpose admirably. I would again stress the hopelessly advanced state in which so many patients are still admitted for treatment for the first time.

We have recently assembled the results of five years gold treatment compared with the previous five years, and statistically the results are very disappointing. We expect to publish these results shortly.

Return showing the results of observation of doubtfully tuberculous cases discharged during the year.

Diagnosis on discharge from observation.	Pulmonary tuberculosis						Non-pulmonary tuberculosis						Totals		
	Stay under 4 weeks.			Stay over 4 weeks.			Stay under 4 weeks.			Stay over 4 weeks.					
	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.	M.	F.	C.
Tuberculous	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
Non-tuberculous	2	...	...	5	4	...	...	...	...	...	...	...	...	...	...
Doubtful	...	...	...	1	...	...	...	...	...	...	...	...	...	...	...
Totals	2	...	...	6	4	...	...	...	...	...	...	...	...	...	...

Two died.

Return showing the immediate results of treatment of definitely tuberculous patients discharged during the year.

Classification on admission to the Institution.		Condition at time of discharge.	Duration of residential treatment in the institution.															Grand Totals
			Under 3 months.			3–6 months.			6–12 months.			More than 12 months			Totals			
			M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	M.	F.	Ch.	
Pulmonary Tuberculosis	Class T.B. minus.	Quiescent ..	8	8	..	14	16	..	6	..	..	1	..	..	29	24	..	53
		Not quiescent ..	3	8	..	6	4	..	..	..	..	..	1	..	9	13	..	22
		Died in institution	1	2	..	..	..	..	..	..	..	..	..	..	1	2	..	3
	Class T.B. plus Group i.	Quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Not quiescent ..	..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	1
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group ii.	Quiescent ..	3	..	..	1	3	..	..	..	..	..	..	..	4	3	..	7
		Not quiescent ..	..	..	..	1	..	..	..	..	..	..	..	..	1	..	..	1
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Class T.B. plus group iii.	Quiescent ..	3	1	..	6	7	..	7	6	..	2	1	..	18	15	..	33
		Not quiescent ..	9	11	..	12	16	..	4	12	..	5	2	..	30	41	..	71
		Died in institution	22	24	..	6	9	..	8	8	..	2	2	..	38	43	..	81
Non-Pulmonary Tuberculosis	Bones and Joints	Quiescent ..	..	..	..	..	1	..	..	1	..	..	..	..	..	2	..	2
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Abdominal	Quiescent ..	..	3	..	2	2	..	..	..	..	..	..	..	2	5	..	7
		Not quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	1	..	..	..	..	..	..	..	..	..	..	..	1	..	1
	Other Organs	Quiescent ..	1	..	..	..	2	..	..	..	..	..	..	..	1	2	..	3
		Not quiescent ..	..	..	..	..	..	..	1	..	..	..	..	..	1	..	..	1
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
	Peripheral glands	Quiescent ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Not quiescent	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
		Died in institution	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..

28 cases of tuberculosis, of whom 18 died, are not included in this table, as they did not complete 28 days treatment.

FRENCHAY PARK SANATORIUM AND ORTHOPAEDIC HOSPITAL.

Report by VIDA STARK, M.B., Ch.B. D.P.H.
Resident Medical Officer.

Analysis of discharges during 1934.

1933	Type of case	Quiescent	Non-quiescent	Died	Non-T.B.	Doubtful	1934
37	Pulmonary tuberculosis ...	14	3	2	—	—	19
55	Non-pulmonary bone and joint tuberculosis ...	26	3	3	—	—	32
	Tuberculous peritonitis ...	17	3	–	—	—	20
	Tuberculous adenitis ...	18	1	—	—	—	19
	T.B. otitis media	1	1	—	—	—	2
	T.B. iritis ...	1	—	—	—	—	1
44	Observation and delicate children	—	—	—	27*	9	36
17	Orthopaedic non-tuberculous cases	42**	—	—	—	—	42

* This group does not include any bone and joint or surgical lesion.

** This group includes 10 cases sent into hospital as tuberculous joint lesions, which completely cleared up and condition has been diagnosed as transient arthritis, 5 cases of infantile paralysis, 14 cases of deformity due to severe rickets, 5 cases sent in as tubercle and proved to be specific, 1 case of non-tuberculous osteomyelitis, and 7 cases of congenital deformity.

Operations during 1934.

1933		1934
7	Major operations under general anaesthetic ...	14
31*	*Minor ,, ,, ,, ,, ...	40
69	Operations under gas anaesthesia	68
24	Operations under local anaesthesia	20

* This group includes 16 cases of removal of tonsils and adenoids.

Altogether 142 operations were carried out during the year; massage and remedial exercises called for 1·733 treatments, and 450 sunlight treatments were given. The number of X-rays taken totalled 224.

Towards the end of the year Mr. K. H. Pridie resigned his appointment as resident medical superintendent, and was succeeded by Dr. Vida Stark. The Health Committee have, however, retained Mr. Pridie's services as part-time visiting assistant orthopaedic

surgeon to the city hospitals so that there will be no break in the continuity of his work at Frenchay.

Structural alterations.

During the year the kitchen has been modernized by the installation of Esse anthracite kitchen ranges which have replaced the old fashioned kitchen range. These new ranges have been a great improvement.

SOUTHMEAD HOSPITAL.

Report by P. Phillips, M.D., M.Sc., Ch.B.,
Resident Medical Superintendent.

The chief developments in the hospital during 1934 have been :

(1) The extension of the theatre block to provide

- (*a*) A new operating theatre
- (*b*) plaster room
- (*c*) X-Ray room
- (*d*) light department.

(2) The conversion of the isolation block (B) for the use of clinics in connection with maternity and child welfare.

A description of the former scheme is given elsewhere in this report. The building was finished about the end of May, 1934, and the additional accommodation should meet our surgical needs for many years. The second scheme was rendered necessary by the growth and popularity of the maternity and child welfare clinics. Block (B) has been adapted to suit its new purpose, and its situation is proving excellent. The growth of the work is shown by the attendances at a single clinic. In 1931 these numbered 789, but in 1934 they had increased to 2,119.

The beds available were classified as follows :—

Medical	144	
Surgical	72	
Children	42	
Chronic sick	103	
Tuberculosis	68	
Isolation	30	(until 1st Sept., 1934)
Maternity	44	
(Cots in maternity) ...	37	
	540	

The average number of beds occupied daily was 462.

- (*a*) Highest (on 2nd May, 1934) 534
- (*b*) Lowest (on 23rd Dec., 1934) 406

During the year 3,165 cases were discharged, whilst there were 481 deaths. Statistics regarding the duration of stay of these patients were as follows :—

(*a*) Under four weeks ... 2,353
(*b*) Over four weeks but under thirteen 800
(*c*) Thirteen weeks or more ... 493

Massage department.

In-patients.	1933	1934	Increase	Decrease
Total massage treatments ...	7,114	5,366	...	1,748
Total electrical treatments...	550	1,493	943	...
Radiant heat treatments ...	757	968	211	...
Total exercises, S.R.E. ...	58	109	51	...
Total treatments	8,479	7,936	1,205	1,748

In this department increases are shown in all sections except massage. The decrease in the number of these treatments is accounted for in two ways :—

(1) The increasing use of plaster in the treatment of fractures.
(2) The demand for the other types of treatment on the staff, which still consists of two masseuses.

In my opinion at least one other masseuse should be available, for many relatively chronic cases of hemiplegia would benefit greatly if they could be placed on treatment.

X-ray and medical electricity.

A new X-ray room has been provided beneath the theatre extension and equipped with a four-valve set brought here from Portland Square dispensary. Though this is a temporary measure, it is working satisfactorily, but it is still hoped that a shock-proof apparatus will be installed ultimately. The number of X-ray examinations made during 1934 was 1,727. This is an increase of 357 on the previous year. Our new dark room is much more adequate and its equipment has been improved.

Adjacent to the X-ray department a "light-room" has been fitted with the latest type of " artificial sunlight " and infra-red lamps. It is carrying out all the work for the tuberculosis department and the hospital.

Statistics relating to patients.

	Remaining 1933	Admission	Discharges	Deaths	Operations	Remaining 1934
Acute infectious diseases ...	—	48	44	4	—	—
Influenza	—	6	5	1	—	—
Tuberculosis (pulmonary) ...	38	119	80	29	5	48
,, (non-pulmonary)	20	34	39	5	17	10
Malignant disease	30	240	131	115	25	24
Rheumatism (acute)	13	22	30	—	—	5
,, (chronic non-articular)	10	12	11	—	—	11
,, (articular)	9	27	31	—	—	5
Venereal disease	4	27	22	9	—	—
Puerperal fever	—	—	—	—	—	—
Other diseases and accidents ...	4	114	113	2	71	3
Connected with childbirth Maternity	28	Mothers 727 Babies 716	Mothers 743 Babies 688	2	—	38
Mental diseases (senile dementia)	—	5	5	—	—	—
,, ,, (other types) ...	—	2	1	1	—	—
Senile decay	11	5	10	—	—	6
Accidential injury and violence	20	270	243	22	92	25
Diseases of nervous system and special senses	55	249	220	20	83	64
Diseases of respiratory system...	58	220	174	59	16	45
Diseases of circulatory system...	59	328	193	133	8	61
Diseases of digestive system ...	29	179	171	14	58	23
Diseases of genito-urinary system	15	137	101	39	57	12
Skin and cellular tissue ...	20	63	66	—	23	17
Congenital deformities ...	6	13	10	—	6	9
Early diseases of infancy (premature birth) ...	—	37	19	18	—	—
Other diseases	8	20	15	8	—	5
TOTALS ...	437	3,620	3,165	481	461	411

Radium treatment.

Cases requiring radium treatment have again been sent to the Bristol Royal Infirmary. Results have been encouraging in suitable subjects, whilst many cases requiring prolonged nursing after radium treatment, have been transferred here from the Royal Infirmary.

Medical section.

Diseases of the circulatory system again ranked highest amongst the medical causes of admission. These diseases also furnished the largest number of deaths. Next in importance come diseases of the nervous system followed by those due to respiratory affections. Digestive disturbances were the cause of 179 admissions, and of these cases 58 underwent operation. Investigations were made into 119 cases of pulmonary tuberculosis. There were few cases of influenza, in marked contrast with 1933. Many of the cases of post-encephalitis lethargica, which had been here for some years, have been removed, thus liberating beds for more active treatment. The problem of the "chronic case" still remains. All these patients require some measure of nursing and medical attention, but in my opinion they could be treated more statisfactorily and economically in a specially designed "chronic block." Such a development would greatly aid the classification of the acute cases, and reduce pressure upon beds.

Surgical section.

The number of operations performed under general anaesthesia during 1934 was 461. This is an increase of 32 compared with the previous year. There were no deaths under anaesthetics, and the new arrangement whereby the resident medical officer of Frenchay is available for anaesthetics is working satisfactorily.

We are indebted to the Bristol Voluntary Blood Transfusion Service which has been established, for the services of a donor. The patient concerned has since returned home well.

Malignant disease again furnished a large group of admissions (240) and the fact that a large number died, emphasises the advanced nature of these cases. Many were transferred here after operation in other hospitals, but even so the number that proved fatal was 115 as compared with 118 in the previous year. Genito-urinary cases number 137 and the provision of cystoscopes and surgical diathermy apparatus has certainly aided this work.

Orthopaedic section.

From the statistical return it will be seen that "accidental injury and violence" was accountable for 270 admissions. This shows a considerable increase compared with 1933, but our present wards are too big to allocate the whole of a male and female ward to fractures. The equipment has been rendered more complete by the provision of a plaster theatre in the new extension, and a "Shropshire orthopaedic horse." In the near future we trust that a mobile X-ray unit will be available, for as this work grows, such a provision becomes essential.

Gynaecological department.

Seventy one operations were performed during the year compared with 36 during 1933. Forty six were cases of incomplete

abortion. One of these patients died, and I am still of the opinion that in spite of ethical difficulties, abortion or miscarriage should be made notifiable.

Maternity department.

The number of maternity cases admitted again shows a marked increase, viz. :—727 as compared with 621 in 1933—an increase of 106.

Ante-natal clinics were held twice during each week and at the one attended by the hospital staff 597 women recorded 2,119 attendances. A post-natal clinic was established in September, and from the few months' experience we have had it does not seem so easy to secure attendance at this clinic as has been the case with the ante-natal clinics.

The report of the district sister shows that ante-natal visits were paid to 105 patients. Of these, 89 were delivered in their own homes. There was one abortion and seven stillbirths. The details of hospital cases are as follows :—

Total number of cases (11 twins)	727
Number of live births	706
,, still-births	32
,, case of ophthalmia neonatorum ...	one
Puerperal sepsis	nil
,, pyrexia	3
Number of maternal deaths	2

These deaths were due to :—

(1) Post partum eclampsia.

(2) Ante-partum haemorrhage due to placenta praevia.

Two other deaths associated with childbirth occurred. One due to septicaemia following septic abortion, the other from pulmonary embolus following a very bad breast abscess.

The present accommodation is working satisfactorily, but in my opinion is rapidly approaching a limit. More than 800 cases per annum could hardly be treated safely in the present wards.

Fifteen nurses were trained for the C.M.B. examinations, at which all were successful.

Our nursing staff still waste much time journeying to and from the Bristol General Hospital for the purpose of attending lectures in midwifery. If the C.M.B. will not recognise our own lectures, much time might be saved by the establishment of a nearer centre, e.g., at the University.

Ear, nose and throat department.

The work in this section shows a slight increase, and during the year 79 operations were performed. Many of these were for the removal of tonsils and adenoids, often associated with chronic aural or nasal discharge. The results following operation have been uniformly good. The remaining operations were for mastoiditis, antral suppuration and deviation of the nasal septum

Dental work.

This tends to increase and is still being carried out on the same basis as in the previous year. Many dentures have been supplied to necessitous cases, with marked benefit to their general condition.

Examinations and teaching.

During the year the hospital has been a centre for the nursing examinations of the General Nursing Council.

Seventeen nurses completed their training in 1934. Accommodation was also provided for the examinations in clinical medicine of the University of Bristol. These were held in June and December. As in former years Professor J. A. Nixon has conducted demonstrations on each Saturday during the terms. The course in medicine for dental students was also held here by Dr. O. C. M. Davis.

Medical, surgical and obstetrical films have been exhibited for instructional purposes from time to time, to nurses and midwives.

STAPLETON INSTITUTION.

(Administered by the Public Assistance Committee).

Report by S. DATTA, M.D., Ch.B.,
Resident Medical Officer.

1933	Admissions and discharges.	1934
833	Patients resident on 31st December, (males, 349, females, 529)	878
627	Admitted during year	574
411	Discharged during year	411
533	Certified under Lunacy Acts	552
145	Certified under Mental Deficiency Acts ...	143
155	Not certified	183

Admissions and discharges.

A number of difficult and violent patients received from the Bristol Mental Hospital under section 25 of the Lunacy Acts, have been found to be unmanageable on account of the inadequacy of staffing and accommodation, and have in consequence been sent back to the Mental Hospital.

The discharges were made up as follows :—

To the Bristol Mental Hospital	233
To other institutions	90
Relieved or recovered	88

Training and employment of patients.

Training and occupation to male patients are given in boot repairing, tailoring, bakery, farm, garage, boilers and domestic work. Women are employed in domestic work, sewing and laundry.

	Male.	Female.	Total.
Total employed ...	120	151	271
Not employed	129	378	607
Total in residence ...	349	529	878

Ophthalmic treatment.

Mr. Garden has been appointed ophthalmologist to the institution. His work has been highly appreciated by many sufferers from diseases and errors of refraction among the patients. The number of patients requiring ophthalmic examination and treatment appears to constitute a very large proportion of those in residence.

Post-encephalitic cases.

A number of cases of post-encephalitic Parkinsonism have been transferred from Southmead Hospital. Special effort is being made to make these people as cheerful as possible, bearing in mind the hopeless nature of their malady. So far the patients and their relatives have been pleased with the care thay have received.

Infectious diseases.

The following cases were notified during the year : erysipelas, 6 ; acute primary pneumonia, 2. It is gratifying to have to report that there were no cases of dysentery or enteric during the year.

Deaths.

There were 118 deaths during the year, 100 of these were patients over sixty years of age. The causes of death were :—

Senility with hypostatic congestion of the lungs, etc.	86
Cerebral vascular diseases	15
Acute respiratory conditions	5
Carcinoma	3
Miscellaneous	9

EASTVILLE INSTITUTION.

(Administered by the Public Assistance Committee).

Report by J. A. Lanson Roberts, M.B., Ch.,B., L.R.C.P., M.R.C.S., Medical Officer.

Table A.

1933	Admissions and discharges.	1934
	Admissions to sick wards from—other parts	
346	of institution	325
625	—casual wards and outside	576
971	Total	901
	Discharges from sick wards to—other parts of	
434	institution	397
3	—Ham Green Hospital	1
72	—Southmead Hospital	85
64	—Stapleton Institution	65
189	—Outside	206
5	—Removals	5
767	Total	759
179	Deaths	147

During 1934, 990 persons were admitted to the institution, 99 less than last year. 901 persons were admitted to the sick wards (including 576 direct), the total comprising 543 males and 358 females. Admissions to the male sick ward decreased from 662 to 543 in 1934 and increased in the female sick ward from 309 to 358 in 1934, a total decrease of 70 admissions. The sick wards contain 184 beds of which an average of 163 have been occupied. The causes of admission are given in Table B.

Table B.

1933	Cause of admission.	1934		
		Males	Females	Total
246	Senility	79	97	176
126	Chest conditions ...	103	43	146
56	Cardia-vascular ...	62	37	99
80	C.N.C.	47	51	98
192	Acute febrile	16	27	43
119	Septic and ulcerated legs	65	24	89
9	Malignant disease ...	20	5	25
26	Rheumatic conditions ...	24	19	43
117	Other diseases	127	55	182
971	Totals	543	358	901

From the able-bodied section of the institution 939 male and 181 female cases have been given treatment (other than treatment in the sick wards) and 146 males and 179 females have been admitted to the sick wards.

Four babies and four mothers were admitted during 1934, one child and one mother from outside and three children and three mothers from Southmead Hospital. Three babies were discharged without mothers to the Children's Homes and one baby with mother outside.

Deaths.

There were 147 deaths in the institution during the year, the average age at death being 77.6 years.

Table C.

1933	Causes of death.	1934
65	Senility	56
7	Malignant disease	11
14	Acute illness	3
27	Disease of nervous system	26
43	Disease of respiratory system	32
18	Disease of circulatory system	15
3	Disease of genito-urinary system ...	3
2	Other diseases	1
179	Total	147

Casuals.

During 1934, 348 casuals were medically examined at the monthly examinations and in addition 418 casuals were seen by the medical officer for various complaints, a decrease of 122 compared with the number treated in 1933. The number of causals requiring admission to city institutions and hospitals has also decreased from 204 to 186, a decrease of 18 and were dealt with by transfer to : Eastville, 165 ; Stapleton, 8 ; Southmead Hospital, 12 ; Eye Hospital, 1, for the reasons stated in the following table :—

Table D.

1933	Admission from casual wards to city hospitals and institutions.	1934
7	Aged and infirm	8
51	Skin conditions	41
27	Septic feet	17
12	Abscesses and septic conditions	22
7	Ulcerated legs and varicose veins	5
8	Venereal disease	4
2	Cardiac disease	3
18	Chest conditions	18
2	Rheumatism	7
20	Influenza	7
4	Malignant disease	4
7	Mental disease...	11
39	Other diseases	39
204	Total	186

The Public Assistance Committee have agreed to the provision of a dispensary at the institution and this is at present under construction.

DENTAL TREATMENT.

Report by HANBURY HAZELL, L.D.S., R.C.S. (Eng.),
Joint institution and schools Dental Surgeon.

Summary for 1934.

Institution.	Extractions.		Anaesthetics.		Scaling	Dressing	Other Operation	Fillings.	
	Temp.	Perm.	Local	General				Temp.	Perm.
Southmead ...	11	388	97	84	5	5	54	1	5
Ham Green ...	13	260	136	5	15	1	69	1	14
Frenchay ...	144	24	18	57	3	2	227	—	22
Children's Homes...	97	37	63	17	21	5	220	6	33
Eastville ...	—	166	77	1	1	—	8	—	—
Stapleton ...	—	302	31	28	134	—	325	—	5
Hortham ...	32	469	230	38	47	1	79	—	3
Maternity and child welfare: Expectant mothers / Nursing mothers	—	2575	45	581	12	11	57	—	44
Infants ...	3112	4	186	875	2	11	168	98	—
Total ...	3409	4225	883	1686	240	36	1207	106	126

In addition, 174 patients were supplied with dentures (complete or partial) at Southmead Hospital (15), Ham Green (7), tuberculosis dispensaries (5) and maternity and child welfare clinics (147).

During the year it has been noted that owing to the increasing numbers of pregnant and nursing mothers being referred for dental treatment, the time allotted them during the school dental sessions was inadequate to cope with the treatment these patients required. In addition the advice the mothers have received in the past seems to be having the required result in that they are seeking dental treatment and advice not only for themselves but for their infants at an early age. Although it is pleasing to observe that the mothers are taking this active interest in the children's dental welfare, it is regrettable to find such a large number of infants of such tender age requiring dental aid.

Owing to the time which elapsed between the dates when patients were referred and when actually treated, it was thought advisable to devote one whole session to maternity and child dental welfare each week at Southmead clinic. There was the difficulty of obtaining an anaesthetist but this was overcome by the appointment of a resident medical officer at Frenchay Park who now administers the anaesthetics required.

The nasal method of gas administration to the adults was introduced and it is worthy of note that patients can be kept anaesthetised without interference to the operator, the anaesthesia is prolonged and patients remain and recover quite tranquil. By this means the number of visits is reduced to a minimum.

It is agreed that oral sepsis is an acknowledged entity in the causation of ill-health so the earlier its removal the sooner the return of good health to the patient and in the case of pregnant women the better the health of the child.

At Ham Green the new dental room is worthy of special mention as now treatment can be carried out without interruption and having adequate flush type and drainage spittoon, the necessity for numerous pails and other receptacles formerly used for rinsing the mouth and cleansing bowls, has been eliminated. The steriliser is at hand and does away with delay, meanwhile the ward staff are not incommoded by the use of their sterilisers.

All the children at the homes were inspected and those requiring treatment were referred to Southmead clinic at a later date by appointment. Children who had received treatment the previous year required little attention beyond extractions for overcrowding of the teeth but the new arrivals, as is expected, needed more than the average amount of dental attention.

More extractions per centum were necessary at Frenchay Park and although less than last year, this seems to be accounted for by the number of fairly frequent admittances and by the lowered resistance of these children on arrival.

Considerably less extraction of teeth was required at Stapleton Institution but frequent scaling of the teeth and gum treatment seem to be necessary owing to lack of oral hygiene. During the year two cases of gangrenous stomatitis were met with at Stapleton, a female aet. 85, who seems to be responding to treatment, and at Southmead hospital, a male patient aet. 72, who was admitted too late to allow for any reaction to treatment.

Selected cases (those likely to benefit by vaccine therapy) of arthritic patients at Southmead Hospital were given series of autogenous vaccines at weekly intervals, following the removal of septic dental foci, and the beneficial results obtained were so encouraging that this line of treatment is continued in cases of diseases likely to be caused by dental sepsis.

Hortham Colony was visited twice each month and the abnormalities found in the position of the teeth of many of these patients is interesting. Transposition of teeth is not very common but a marked case was found with an upper premolar erupting in the front of the mouth between the central incisor and the canine.

For the most part patients from Eastville Institution attend Southmead Hospital for dental attention but visits to the institution are occasionally necessary for bed-ridden patients. Those patients recommended for dentures and unable to obtain them privately, have their names submitted for consideration and approval by the Committee attending the particular institution.

The help and co-operation of the medical and nursing staffs at the various institutions visited is invaluable at all times, and eliminates confusion and unnecessary delays.

Department of Preventive Medicine.

Pathological and bacteriological examinations, 1934.

Nature of specimen examined		Number
Diphtheria :	Swabs.—primary	3,428
	,, —repeat	16,349
	Virulence test	18
Sputum :	For tuberculosis	1,230
	Other	2
Blood :	Enteric or other fevers	62
	Malaria	6
	Cell counts	47
	Cultures	18
	Blood sugar	10
Faeces :	Enteric fever	35
	Dysentery	17
	For occult blood	8
	General	4
	Tuberculosis	5
Urine :	Enteric fever	10
	Other conditions	164
	Tuberculosis	4
Vaccines :	... ...	4
Milks :	Tuberculosis	505
	Counts	375
	Other factors	113
	Tests during pasteurisation	30
	Ice cream	77
	Ice cream powders	6
Cerebro-spinal or other fluids		85
Swabs for haemolytic streptococci		88
V.D.	Blood Wasserman	2,499
	Complement fixation for G/c.	585
	Gold curve	14
	Cell count, proteins, etc.	10
	Films	2,442
Rats	... ...	898
Beetles	... ...	1
Tissues	... ...	87
Various :	Lecithin estimation	28
	Teeth for vaccine	1
	Pus	44
	Blood, N.P.N.	2
	Blood for urea	28
	Blood grouping	2
	Swabs for organisms	17
	Test meal	4
	Bile	1
	Van den bergh	3
	Shaving brushes for anthrax	25
	Measles serum	1
	Maggots in furniture	1
	Calcium estimation	1
	Stomach contents for tubercle	2
	Tins of tongue	3
	Portions of carcase for phosphorus poisoning	1
	Hair for ring worm	1
	Insects from monkey nuts	1
	Material for B.pestis	1
	Wax	1
	Total	29,404

PREVENTIVE MEDICINE LABORATORY.

Report by Professor I. Walker Hall, M.D.,
Director, Pathological Services.

Milk.

The routine examinations of graded milks have shown that 10·7 per cent. of certified milk and 13·2 per cent. of grade A. T. T. milks did not comply with the present limits of bacterial contents. The counts of all the grade A milks were within the allowed quantities. 40·7 per cent. of the pasteurised milks contained presumptive coliform organisms in 0·1 cc. The appended brief summary shows that the increases occurred chiefly from June to September and points to the need for greater care in collection during this period.

Total milks examined	28 Certified	128 Grade A.T.T.	130 Pasteurized
January ...	—	1	2
February ...	—	0	4
March ...	—	2	3
April ...	—	0	3
May ...	—	0	3
June ...	1	1	2
July ...	1	1	7
August ...	1	4	5
September ...	—	5	7
October ...	—	3	10
November ...	—	0	9
December ...	—	0	6
Milks not complying ...	3	17	61
Percentage ...	10·7	13·2	40·7

The work on pasteurised milks was systematically concerned with comparisons of the raw milk before pasteurising, the milk direct from the holders and from the bottles supplied to the consumer. The findings elsewhere recorded show that there is room for considerable improvement in the handling of this product, the main points emerging being the necessity for cleaner raw milk and less delay between the hour of collection and that of pasteurization.

It may be of interest to compare the tuberculous contents of the milk vended in the Bristol area over a series of years.

Year	Number of milks examined	Percentage containing tubercle bacilli
1925	50	2·0%
1926	50	6·0%
1927	50	6·0%
1928	50	8·7%
1929	50	6·0%
1930	50	12·0%
1931	150	8·7%
1932	303	6·3%
1933	394	6·9%
1934	485	5·15%

One milk contained a streptothrix virulent to guinea-pigs and rabbits. An account of its characteristics is being published in the Journal of Dairy Science.

In addition, 82 of the milks contained streptococci other than *S. Lactis* and abscesses due to streptococci and other organisms were induced in 48 guinea-pigs (9·9 per cent).

Ice creams.

Seventy two (72) samples were examined during the summer season. Twenty-seven of these contained coliform organisms in 0·1 cc. and twenty in 0·01 cc. Seven yielded large numbers of streptococococci. One sample contained tubercle bacilli. Twenty-nine had an excess of extraneous materials.

It is evident that the ice cream supplies are unsatisfactory from the public health standpoint. Some of the makers were using cold mix powders without ensuring sterilisation of other materials.

It is not perhaps fully realised how the consumption of ice cream has increased of late and how closely it is associated with the necessity for using clean and fully pasteruised milk as its principal ingredient. That it has been indicted elsewhere as the cause of epidemic outbreaks of food poisoning and summer diarrhoea in children incites further investigations prior to the 1935 season. The finding of virulent streptococci in one of the samples examined led to the revelation that the ice cream producer was using milk from a supply we had previously reported as " streptococcal." It is hard upon both producer and consumer alike that standardisation of constituents, manufacturing details and bacterial limits is so long delayed.

Widal reactions.

When this reaction was commenced early in the present century, it was deemed sufficient to examine serum for typhoid organisms only. Time has increased the requirements so as to make it necessary now to carry out the investigation with five different

infective bacteria, viz. : typhoid H, paratyphoid A & B, typhoid O and Brucella Abortus. These testings are sometimes hampered by the insufficient quantity of blood collected by the practitioner. Owing to this extension, an unusual case of paratyphoid A was discovered in a Bristol institution during the year. The details were published in the "Lancet."

Diphtheria.

The examination and rapid reports upon primary swabs have been continued through the year with the following interesting results for nine months' records :—

88	primary swabs positive.	positive results on culture	88
2,392	primary swabs negative.	positive results on culture	210
2,480			298

Virulence tests have also yielded findings useful for guidance :

9 cultures from nose, morphologically K.L.	3 non-virulent. 6 virulent.
2 cultures from throat, morphologically K.L.	1 non-virulent. 1 virulent.

Shaving brushes.

A few scattered cases of anthrax occurring in different parts of England from the use of shaving brushes led to the examination of the output of a particular factory. Those distributed in Bristol, although free from anthrax, did not comply with the description on the labels, and, in fact, contained a number of varied types of sporebearing organisms. The work suggested the need for routine monthly sampling of these articles.

Meat.

Among the various meats submitted for examination were some glands simulating caseous lymph-adenitis in sheep. The condition called for research investigation, especially in view of the fact that the carcases came from areas hitherto free from this type of infection. Through the courtesy of Dr. C. F. White, medical officer of health for the port of London, an opportunity has been afforded to make comparative observations. The findings pointed to the presence of a definite type of lesion differing from the caseous form and probably due to streptococci. The results are being prepared for early publication.

Insects, parasites, etc.

Many specimens have been referred to the zoological department of the University for identity and advice. Their prompt reports and accurately detailed instructions for destruction constitute an important branch of the facilities of the laboratory.

The Report of the Public Analyst, Official Agricultural Analyst and Gas Examiner.

To the

LORD MAYOR, THE ALDERMEN, AND MEMBERS OF THE CITY COUNCIL.

My Lord Mayor, Ladies and Gentlemen,

I have the honour to present the report on the work carried out in this department during the year 1934.

It was a momentous year in that an agreement between the Corporation and the University was ratified, whereby the chemical department of the Corporation was transferred to the department of preventive medicine, on August 24th. This date coincided with the retirement of Mr. Russell, your public analyst for 28 years, and the appointment of your present public analyst.

The new laboratories afford increased and up-to-date accommodation for the ever-growing volume of chemical work, and the equipment and some physical apparatus was modernised.

The report is divided into six parts as follows :—

Part 1. Food and Drugs Act.
Part 2. Port samples.
Part 3. Fertiliser and Feeding Stuffs Act.
Part 4. Water, river water, and sewage.
Part 5. Miscellaneous analyses.
Part 6. Gas Regulation Act.

The food and drugs work was maintained at the same level as in the previous year, in spite of the three weeks' dislocation of chemical work due to the transference of the laboratories. The adulteration rate was increased by about 1 per cent. due almost entirely to milk.

The number of port samples of food was about the same, but results were expedited to a great extent owing to the installation of a new bench with a battery of apparatus.

A larger amount of work was done on the river Avon water, both tidal and non-tidal, and on sewage from about 18 different outfalls, and some interesting results were obtained.

I have pleasure in acknowledging the excellent work of every member of my staff and the zealous and willing way it has been carried out.

I am, my Lord Mayor, Ladies and Gentlemen,

Your obedient servant,

F. E. NEEDS,

Public Analyst.

SUMMARY OF SAMPLES.

Table 1.

Food and Drugs Act	1,384
Food samples from the port	104
Water for chemical analysis	32
River water for city engineer	185
Sewage samples for city engineer ...	33
Fertilisers and Feeding Stuffs Act ...	28
Rag Flock Act	4
Baths department	9
Education department	5
Electrical department	2
City Estates department	2
Police department	5
Health department	2
Brentry Colony	2
Public Assistance Committee	6
Gas Regulation Act	612
Agricultural products ... Grading and Marketing Act	1
Total ...	2,416

PART I.

FOOD AND DRUGS ACT.

During the year 1,384 samples were submitted for analysis under the Food and Drugs (Adulteration) Act, 1928. This number is nine more than for the previous year despite the dislocation of chemical work during the month of September, when the laboratories were transferred from Queen Square to the department of preventive medicine at Canynge Hall.

Table 2 shows the nature and number of samples submitted, with the number reported genuine and the number adulterated :—

Table 2.

Article	Number examined	Number genuine	Number adulterated	Per cent. adulterated
Milk	893	832	61	6·83
Skimmed milk ...	18	16	2	11·11
Cream	13	11	2	15·38
Butter	107	107	0	0
Margarine	24	24	0	0
Cheese	11	11	0	0
Lard	24	24	0	0
Dripping	8	8	0	0
Suet (shredded) ...	5	4	1	20·0
Cocoa	9	8	1	11·1
Coffee and chicory	3	3	0	0
Tea	11	11	0	0
Coffee	7	7	0	0
Vinegar	36	28	8	22·22
Spice	4	4	0	0
Pepper	11	11	0	0
Mustard compound	6	6	0	0
Table jelly ...	12	12	0	0
Mineral water ...	12	12	0	0
Dried fruit ...	12	12	0	0
Unfermented cordial	7	7	0	0
Wine (British) ...	2	2	0	0
Sardines	4	4	0	0
Sausages	7	6	1	14·29
Pickles and sauce...	4	4	0	0
Cider	3	3	0	0
Beer	4	4	0	0
Lemon cheese ...	3	3	0	0
Pancake	1	1	0	0
Sugars	32	29	3	9·38
Wheaten and other flours	25	25	0	0
Spirits	22	22	0	0
Drugs	44	39	5	11·36
Total ...	1,384	1,300	84	6·07

Number of samples examined	1,384
,, ,, adulterated	84
,, ,, genuine	1,300

Of the 1,384 samples examined, 691 were sealed (having been divided in accordance with the provisions of section eighteen of the Food and Drugs (Adulteration) Act 1928), and 693 were unsealed, or informal samples.

Half of the number of samples were informal, but the analysis of these is just as complete as the formal samples, and very often a larger quantity of the sample is available for an extensive examination. It is upon the information gained from these informal samples, when they contravene the provisions of the Food and Drugs Act, that formal samples are obtained, and if necessary, legal action taken.

Comparative figures for adulteration in Bristol for the last five years are given in Table 3.

Table 3.

	1930	1931	1932	1933	1934
Total number of samples ...	1,400	1,400	1,400	1,375	1,384
Per cent. adulterated milk	5·36	5·67	5·67	5·43	6·83
Per cent. foods, other than milk	0·96	1·49	3·02	3·07	3·26
Drugs	15·79	12·82	5·41	13·56	11·36
Total per cent. adulterated	4·0	4·21	4·71	5·02	6·07

The figures for England and Wales for the year 1933 are as follows :

Total adulteration rate ... 5·5%

Milk ,, ,, ... 7·7%

Milk.

Of the sixty-one samples of milk condemned, fifteen showed an addition of water, forty-one were deficient in fat, and three samples gave evidence of the addition of water and deficiency in fat. In addition, two samples were condemned for the presence of formaldehyde. Also two samples of skimmed milk contained added water.

Table 4 gives the figures of analysis of these watered samples of milk and skimmed milk :—

Table 4.

Number of sample	Analytical figures.			Per cent. added water
	Fat	Non-fatty solids	Freezing point depression	
			Δ	
560 ...	2·87	8·07	0·489	5·06
587 ...	3·1	7·7	0·466	9·4
609 ...	2·5	7·2	0·428	15·2
617 skimmed	1·07	8·30	0·497	4·5
632 skimmed	·15	7·85	0·452	9·7
652 ...	3·00	8·16	0·510	4·0
666 ...	2·6	6·2	0·389	27·0
759 ...	3·45	7·35	0·466	13·5
763 ...	3·33	7·92	0·514	6·8
765 ...	8·1	7·2	0·460	15·2
776 ...	3·0	8·1	0·511	4·7
854 ...	2·5	7·1	0·438	16·4
861 ...	2·3	6·5	0·387	23·5
946 ...	4·31	8·16	0·495	4·0
971 ...	2·94	8·22	0·503	3·2
972 ...	2·94	8·22	0·504	3·2
1,395 ...	3·25	8·10	0·520	4·7

The abstraction of fat is responsible for the condemnation of 41 samples, of which 21 were condemned for a deficiency of (or greater than) 10 per cent.

Seven of the latter were particularly bad samples as the following figures show :—

Table 5.

Number of sample	Fat	N.F.S.	T.S.	% Fat abstracted.
588	2·49	8·58	11·07	17·0% fat abstracted
929	2·34	8·80	11·14	22·0% ,, ,,
945	2·25	9·20	11·45	25·0% ,, ,,
1032	2·40	8·75	11·15	20·0% ,, ,,
1304	1·95	8·90	10·85	35·0% ,, ,,
1305	2·00	8·87	10·87	33·3% ,, ,,
1306	1·90	8·90	10·80	36·6% ,, ,,

The figures for the three samples condemned for double adulteration are as follows :—

Table 6.

Number of sample	Fat	Non-fatty solids	Freezing point depression	Result
719	2·25	7·50	0·466	11·7% added water 15·0% fat abstracted
821	·5	3·9	0·223	54·1% added water 63·6% fat abstracted
860	2·5	7·5	0·455	11·7% added water. 5·6% fat abstracted

Abnormal and suspicious milk.

Table 7.—*Abnormal.*

Number of sample	Specific gravity	Fat per cent.	Non-fatty solids	Ash per cent.	Freezing point depression
					Δ
781	1029·5	3·35	8·2	—	·535
782	1029·6	3·35	8·2	—	·534
1048	1029·5	3·3	8·2	—	·530
1057	1030·0	2·95	8·15	·68	·530
1118	1029·6	3·5	8·25	—	·530
1135	1030·2	3·25	8·4	—	·533
1136	1030·5	3·3	8·45	—	·536
1243	1029·8	2·90	8·35	·72	·535

Table 8.—*Suspicious.*

571	1030·4	3·75	8·45	·69	·506
738	1030·0	3·9	8·4	·70	·518
758	1030·1	3·7	8·4	—	·511
760	1032·5	2·95	8·7	·75	—
773	1029·8	3·8	8·4	·70	·510
995	1030·0	3·6	8·3	·69	·515
1058	1030·6	3·4	8·5	—	·521
1097	1030·2	3·3	8·55	·73	·519
1108	1030·3	3·22	8·40	·71	·516
1109	1029·6	3·60	8·35	·69	·518
1123	1029·5	3·30	8·35	·72	·484
1159	1030·2	3·30	8·55	·71	·492
1160	1030·5	3·65	8·5	—	·519
1197	1031·7	2·95	8·60	—	—
1235	1030·6	3·35	8·5	—	·522
1236	1031·1	3·4	8·6	—	·523
1271	1031·0	3·45	8·55	—	·511
1335	1032·9	2·95	8·95	—	·544
1405	1032·1	2·95	8·90	—	—

Average composition of genuine milk.—Year 1934.

Table 9.

Month	Specific Gravity	Fat	Non-fatty solids
		%	%
January	1032·1	3·52	8·90
February	1032·2	3·32	8·87
March	1031·9	3·41	8·82
April	1031·7	3·39	8·76
May	1031·8	3·37	8·79
June	1031·7	3·34	8·76
July	1031·1	3·38	8·58
August	1030·5	3·49	8·50
September	1031·5	3·40	8·72
October	1031·8	3·47	8·80
November	1031·9	3·59	8·83
December	1031·8	3·50	8·80
Average for Year	1031·7	3·43	8·76

Number of samples for each month :

January	80	July	64
February ...	59	August ...	8
March	69	September ...	67
April	60	October ...	111
May	60	November ...	99
June	75	December ...	70

Freezing point of milk.

The Hortvet apparatus for determining the freezing point of milk has been extremely useful again this year. Not only does this figure definitely confirm the addition of water, but it distinguishes between samples that are abnormal and those that are suspicious.

It thus gives one the opportunity of helping those farmers and producers who are honestly doing their best to supply milk of

good quality, and by arrangement with the agricultural advisory department of the University, these farmers are visited and help given as regards feeding, the selection of cattle and the detection of ailments contributing to the production of inferior quality milk.

On the other hand, suspicious samples are followed up in order to correct careless handling, leaky coolers, and the "little drop for luck."

During the last quarter of the year, a number of samples were taken from farms, and the Hortvet figure was obtained on every sample, since it represents milk first-hand, whilst vended milk may pass through three or more hands before it reaches the consumer.

The freezing-point depressions of considerably more than a thousand samples of milk have been determined with the Hortvet apparatus since the latter was first used in May 1931, and the average of the genuine samples, (*i.e.*, excluding those reported as adulterated) is 0·541. It was thought that the depression of the freezing point might be a little greater for those samples collected at the farms during the last quarter, but the average figure was about the same *i.e.*, 0·540.

One very interesting example of the usefulness of the determination of the freezing point is given by sample no. 765 (see table 4). The fat is the abnormal figure of 8·1 %, and the non-fatty solids 7·2 %, giving total solids of 15·3 %. Such a sample would probably pass as "abnormal" before the advent of the Hortvet apparatus. The ash obtained was 0·57% and this throws suspicion on the sample. But the freezing point depression was ·466, which definitely confirms the presence of "added water," and the sample was thus condemned.

In the case of 37 adulterated samples, recourse was made to trace the source of adulteration and this involved the collection and analysis of a further 105 samples.

It is illuminating to compare the freezing point depression of original samples with that of the samples traced back to the source in cases which involved "added water."

Table 10.

Number of original sample	Freezing point depression Δ	Freezing point depression Δ of these samples traced back to source.					
560	·489	·506	·524				·538
609	·428						·537
617	·497	·452					·536
652	·510	·389	·525	·532			·541
759	·466	·514	·524	·534	·535	·538	·546
719	·466	·460	·511	·527			·537
854	·438	·387	·455				·535
946	·495	·533					·543
1395	·523	·529	·536	·548			·553

Cream.

Thirteen samples of cream were examined (two being condemned for the presence of Boron preservative), with the results recorded in the following table :—

Table 11.

	Total solids per cent.	Fat per cent.	Ash per cent.
Highest ...	73·37	69·17	·60
Lowest ...	31·11	24·29	·25
Mean	46·87	40·5	·48

Of these, seven were fresh cream, and six were tinned cream.

It is noteworthy that tinned cream contains only about half the amount of fat usually to be found in fresh cream.

Adulterated samples other than milks and creams.

Table 12.

Number of sample	Nature of sample	Nature of adulteration.
51	Coffee	57·0% chicory
128	Raspberry jam	·004% excess of SO_2
361	Blackcurrant jam	·002% excess of SO_2
161	Vinegar ...	53·7% deficient in acetic acid
170	Vinegar ...	53·7% ,, ,, ,, ,,
175	Vinegar ...	26·2% ,, ,, ,, ,,
184	Vinegar ...	21·2% ,, ,, ,, ,,
263	Vinegar ...	Nematode worms (90 per c.c.)
266	Vinegar ...	Nematode worms (600 ,, ,,)
267	Vinegar ...	Nematode worms (70 ,, ,,)
292	Vinegar ...	Nematode worms (600 ,, ,,)
323	Sausages ...	·026% SO_2
387	Sweetmeats ...	77 parts per million excess SO_2
437	Shredded beef suet	8% excess rice flour

Fatty substances.

The following samples under this heading were examined, all of them being genuine excepting one sample of suet :—

107	samples of	butter
24	,,	margarine
11	,,	cheese
24	,,	lard
8	,,	dripping
5	,,	shredded suet

With regard to cheese, two samples were of the Dutch variety, and contained 15·9% and 19·8% fat respectively. The fat content in the remainder varied between 36·2% and 27·5% giving a mean figure of 33·3%.

The sample of shredded suet was condemned for an excess of 8% rice flour, the fat content being only 75%.

The Council of the Society of Public Analysts in December, 1931, expressed the opinion that, pending the establishment of any legally authorised standard, shredded suet should contain not less than 83% of fat. A lower percentage of fat should be regarded as indicative of excess of flour.

The following table gives the extreme and mean values of some of the physical tests applied commonly to fatty substances :—

Table 13.

Nature of Sample	Valenta Test			Zeiss at 35°C			Avge. M.P.	Reichert average	Polenske average
	Highest	Lowest	Average	Highest	Lowest	Average			
	°C	°C	°C				°C		
Butter ...	55·0	28·5	41·8	47·5	42·6	44·6	—	29·7	2·2
Margarine	88·0	48·5	66·7	53·0	44·0	48·8	—	3·20	3·24
Cheese ...	46·0	27·0	36·7	46·5	43·1	44·9	—	31·39	3·58
Lard ...	98·0	88·0	92·6	54·7	50·4	52·6	44·5	—	—
Dripping	99·0	82·0	91·6	50·7	48·0	49·4	46·6	—	—
Suet (Shredded)	104·	100·	102·4	49·0	47·5	48·5	48·1	—	—

Starchy foods.

The following specimens were examined as set out in the table.

Table 14.

Description	Number of samples	Moisture % average	Ash % average	Microscope
Arrowroot ...	4	14·54	·20	Arrowroot starch
Blanc mange powder ...	2	10·02	·12	Maize starch
Custard powder	2	10·05	·16	Maize ,,
Flour, plain ...	8	13·39	·42	Wheaten ,,
Flour, self raising	4	12·26	2·04	Wheaten ,,
Rice	3	—	·59	Rice ,,
Tapioca ...	2	12·72	·15	Tapioca ,,

Sugars.

Thirty-two samples classified under this heading were examined, the different varieties being as follows :—

Description.	Number of samples.
Golden syrup	2
Honey	2
Jam	15
Sugar	2
Sweetmeats	11
	32

Two jams were condemned for an excess of sulphur dioxide, as also was one sample of sweetmeats (clear mints).

Although the excess of sulphur dioxide in jam was small, yet it is necessary to take notice of these technical breaches of the

regulations. Otherwise, the tendency will be for SO_2 to be used to an increasing extent, a practice which it is very necessary to avoid.

Table 15.

No.	Description	% Sucrose	% Invert Sugar	% Starch Glucose	% Soluble solids	% In-soluble solids	% Fruit	% Fruit guaran-teed	SO_2 parts per million
128	Raspberry	22·8	34·7	9·5	69·5	—	—	38	80
129	Blackcurrant	13·3	38·6	8·0	68·0	—	—	30	70
130	Plum	33·3	35·5	0	71·6	—	—	35	0
131	Strawberry	25·8	37·2	0	68·2	—	—	42	35
153	Raspberry	25·0	33·7	10·6	70·0	—	—	38	29
154	Strawberry	27·6	33·8	6·4	69·5	—	—	42	38
359	Strawberry	15·1	42·2	10·8	68·6	1·49	43	42	26
361	Blackcurrant	9·4	57·1	0	68·6	3·08	39	30	60
362	Marmalade	26·3	40·7	0	71·5	·98	—	—	8
368	Strawberry	41·6	26·5	0	70·8	1·77	51	42	0
398	Blackcurrant	21·5	39·5	0	70·5	1·92	34	30	40
399	Blackcurrant	18·1	54·6	0	73·6	2·12	37	30	40
400	Blackcurrant	23·3	40·5	0	69·5	1·64	29	30	13
401	Blackcurrant	16·6	47·8	0	71·6	1·34	24	30	34
402	Blackcurrant	26·2	34·0	0	68·7	2·76	35	30	0

Of the sweetmeats examined, one variety called "clear mints" contained large amounts of sulphur dioxide in several instances, and in one case the sample was condemned for an excessive amount.

It seems extremely undesirable that such quantities of SO_2 should be ingested with such a popular sweetmeat. But in the present position of the preservative regulations, the amount of SO_2 allowed in the finished product of a mixture of sucrose and glucose syrup is 70 and 450 parts per million respectively. Although the greater part must be expelled during the process of manufacture, it is more than probable that this amount of SO_2 is additional for bleaching purposes. Yet several samples contained no SO_2 as the following table shows :—

Table 16.

	Clear Mints					
No.	387	389	391	410	429	430
Sucrose	74·0	52·7	74·4	71·0	74·8	71·4
Glucose syrup ...	23·6	45·7	24·6	28·4	24·2	27·8
Moisture flavouring preservative and mineral matter	2·4	1·6	1·0	0·6	1·0	0·8
	100·0	100·0	100·0	100·0	100·0	100·0
SO_2 parts per million found	235	0	0	106	147	147
SO_2 allowed in sucrose 70 parts per million glucose syrup 450 parts per million	158	—	—	177	161	175

Tea.

Eleven samples were examined giving very consistent chemical figures throughout, and the usual microscopical appearances. The mean analytical results were as follows :—

Total ash	...	...	5·55%
Soluble ash	...	...	3·53%
Alkalinity (as K_2O)	...		1·68%

There was no evidence of spent leaves or foreign structures.

Coffee, etc.

Twelve samples were examined, three of which were sold as a mixture of coffee and chicory. One sample of coffee was condemned, containing 57% of chicory.

The average specific gravity of a 10% decotion of the samples of coffee was 1009·7 and the microscopical appearances were normal.

Pepper.

Eleven samples were examined and all were classed as genuine. The ash ranged from ·28% to 1·3%, giving an average of ·89%. The highest amount of silica found was ·42%.

Vinegar.

Thirty-six samples were examined, eight being condemned, four for a deficiency in acetic acid, and four for the presence of an excessive number of nematode worms, probably due to a dirty cask or tap.

The mean acetic acid figure, omitting the deficient samples, was 4·63%. Eighteen samples were of the fermented vinegar type, the remainder belonging to the distilled variety.

Arsenic was detected in all cases, but the amount was not greater than $\frac{1}{100}$ grain per gallon.

Beer.

Table 17.

No.	80	81	82	83
% Alcohol v/v	5·03	4·16	6·63	3·75
% Proof spirit	8·81	7·27	11·65	6·57
Acidity as % acetic acid ...	·25	·29	·33	·34
Original gravity	1045·2	1038·8	1057·3	1041·9
Total solids %	3·13	2·92	3·43	4·16
SO_2 parts per million ...	6	0	13	0
Arsenic	faint traces	faint traces	faint traces	faint traces

Spirits.

Twenty-two samples of spirits were examined consisting of the following varieties :—

Brandy	...	...	6
Whisky	...	...	8
Rum	...	...	4
Gin	...	...	4

All proved to be genuine.

Drugs.

Table 18.

The following drugs were submitted for analysis :—

Tincture of iodine	(12)	Boric acid	(3)
Bicarbonate of soda	(6)	Borax	(3)
Carbonate of soda	(3)	Glauber's salt	(2)
Zinc ointment	(8)	Sodium chloride	(2)
Aspirin tablets	(4)		

Five of these were condemned :

Table 19.

No. of Sample			
313	Bicarbonate of soda	46·9%	Borax
314	,, ,,	82·5%	,,
315	,, ,,	94·7%	,,
411	Solution of iodine	79·1%	Deficient in iodine
		65·5%	Deficient in potassium iodide
427	,, ,,	78·3%	Deficient in iodine
		62·7%	Deficient in potassium iodide

The three samples of bicarbonate of soda were from one source, and condemned for the presence of large quantities of borax, due to the carelessness of an assistant.

It is easy to conceive that the dyspepsia for which the drug was purchased would be aggravated very considerably by the presence of such large quantities of borax.

There is a large and ready sale of solution of iodine sold in the streets by pedlars, and it is very important that this almost universal emergency antiseptic for cuts and wounds should be up to the B.P. standard, i.e., 2·5% iodine and 1·5% potassium iodide. The two samples condemned were very weak in both these constituents, and also contained a gummy residue, probably Friar's balsam.

One sample submitted by the inspector was called " spirit of iodine." Analysis revealed the following composition :—

Iodine	... ...	·8 grm.
Potassium iodide	...	1·25 ,,
Phenol	... ...	2·0 ,,
Industrial Spirit and water	...	to produce 100 millilitres.

No preparation is included in the British Pharmacopoeia, 1932, nor in the British Pharmaceutical Codex, 1934, with the title

"spirit of iodine," although it is quite conceivable that it might be purchased by the layman for the tincture or solution of iodine.

Preservative and colouring matter.

Preservative was found in two samples of milk, in each case containing ·0003% formaldehyde.

Scarcely a year passes without one or two samples of milk yielding this harmful preservative.

During the past twenty years, formaldehyde has been detected in thirty-seven samples of milk, but the practice of preservation with boric acid has completely died out, no samples of milk examined during the past 10 years having revealed its presence.

Sulphur dioxide was detected in the following samples :—

Table 20.

Nature of sample	No. of samples	Highest %	Average %
Jam	12	·008	·004
Table jelly	4	·0058	·0015
Dried fruit (a)	5	·142	·0647
Sweetmeats	3	·0147	·0133
Sausages	1	·011	·011
Beer	2	·0013	·0009
Unfermented cordial ...	1	·027	·027
British wine	1	·0099	·0099

Benzoic acid was detected and determined in four samples of unfermented cordial. The following amounts were found :—

·047% ·004% ·0496% ·0038%

Benzoid acid was detected and determined in two samples of mineral water. The following amounts were found :—

·0062% ·008%

PART II.

Port samples.

During the year 104 samples were examined, 79 being examined for the presence of preservatives. The following table gives the nature of such samples.

Table 21.

Nature of sample	Sulphur dioxide (SO_2)			
	Number submitted	Per cent. found highest	Per cent. found lowest	Per cent. allowed
Apricots, dried ...	4	·154	·0448	·2
Blackcurrant pulp ...	6	·129	·101	·15
Cherries in brine ...	2	·059	·006	·3
Cherries in syrup ...	1	·006	·006	·3
Fruit salad dried ...	3	·096	·054	—
Glucose	1	·032	·032	·045
Raisins	20	·061	·0039	·075
Strawberry pulp ...	1	·149	·149	·2
Sultanas	1	·0416	·0416	·075

The following samples contained no preservative :—

Almonds	1	Muscatels	3
Apple cider	1	Peas, canned	1
Asparagus, canned ...	1	Prunes	1
Bacon	1	Raisins	2
Blackcurrant pulp ...	1	Salmon canned ...	3
Butter	1	Sweet corn canned ...	2
Currants	2	Sultanas	2
Grape fruit canned ...	1	Sugar	1
Lard	1	Tomato catsup	1
Loganberries canned ...	1	Tomato puree	1
Marshmallow cream ...	1	Tomatoes tinned ...	1
Milk condensed skimmed	5	Tangarine oranges canned	1
Milk evaporated ...	1	Tuna fish canned ...	1
Milk skimmed powder	1	Walnuts shelled ...	1

During the year, the laboratory has been equipped with a battery of apparatus for determining the SO_2 content of imported food, by the Monier-Williams method. It is extremely important that such examinations should cause as little delay as possible to the trade at the port, and usually the results are communicated to the port food inspectors in less than 24 hours after collection of samples.

Five samples of condensed milk (machine skimmed) were examined, giving the following figures :—

Table 22.

Number of sample	22	23	24	41	42
	%	%	%	%	%
Total solids	73·09	73·09	72·17	72·56	72·71
Ash	2·41	2·46	2·59	2·36	2·30
Fat	·35	·35	·42	·44	·62
Protein	9·71	9·60	10·35	10·15	10·39
Lactose	13·80	13·70	11·90	14·44	14·83
Milk solids (by addition)	26·27	26·11	25·26	27·39	28·14
Sucrose	46·2	46·3	46·5	44·23	43·1
Invert sugar	—	—	—	0·82	1·22

One sample of evaporated milk and a skimmed milk powder were examined, giving the following figures :—

Table 23.

Number of sample	Evaporated milk 9	Skimmed milk powder 31
	%	%
Total solids	31·53	96·9
Ash	1·94	8·2
Fat	9·41	0·9
Protein	8·42	36·4
Lactose	10·76	50·1
Milk solids (by addition) ...	30·53	95·6
Sucrose	nil	nil

These samples conformed to the Condensed Milk and the Dried Milk Regulations, and contained no preservatives.

A sample of a tonic food powder was examined giving the following figures on analysis :—

Table 24.

Number of sample :	103
	%
Moisture	4·36
Ash	3·71
Soluble ash	2·27
Alkalinity as K_2O	0·48
Fat	4·53
Protein	13·28
Sucrose	38·76
Anhydrous lactose	8·24
Maltose	10·25
Cold water extract (dry fat free)	86·40
Ash of cold water extract ...	3·64

From the above figures, it would appear that the sample is of the following approximate composition :—

Cocoa matter	25
Cane sugar	40
Milk powder	15
Malt extract	20
	100

A sample of soft cane sugar contained formic acid preservative : ·10 per cent.

Thirteen samples of alleged damaged food were examined from the port food inspectors with the following results :

Table 25.

Sample Number	Description	Result
8	Tapioca ...	Damaged by water
12	Desiccated coconut	Damaged by water
13	Dates ...	Damaged by water
14	Dates	Sound
17	Frozen lamb ...	Contaminated with rusty material
43	Frozen lamb ...	Contaminated with urine and sawdust.
55	Frozen lamb ...	Contaminated with brine
20	Flour	Sound
53	Flour	Fly infested
68	Flour	Damaged by water
54	Butter	Contaminated with brine and rusty material
86	Currants ...	Contaminated with sea water
87	Currants ...	Sound

Five samples of sardines were examined for contamination with lead. They contained 8, 5, 5, 1·5 and ·3 parts per million respectively, which is well below the limit of 20 parts of lead per million, suggested at the conference of port medical officers held at the Ministry of Health on 20th October, 1933.

Metallic contaminations.

Table 26.

No.		
19	Corn (canned) ...	Metals nil
48	Corn (canned) ...	Metals nil
33	Salt	Insoluble residue nil Arsenic faint trace
38	Cherries (canned) ...	·01% tin. } Swelled tins were due to hydrogen gas
39	Cherries (canned) ...	·011% tin }
40	Cherries (canned) ...	·014% tin }
46	Asparagus	Cu and Sn. traces
52	Asparagus	Pb. nil
50	Ox tongue	Pb. nil

PART III.

Fertilisers and Feeding Stuffs Act.

Twenty-eight samples of feeding stuffs were examined, nineteen being informal samples, and nine formal.

Feeding stuffs.

Table 27.

No.	Nature of sample	Oil per cent. G.	Oil per cent. F.	Albuminoids per cent. G.	Albuminoids per cent. F.	Fibre per cent. G.	Fibre per cent. F.
1	Linseed cake ...	12	11·3	28	27·4	—	—
2	,, ,, ...	12	11·6	28	26·4	—	—
3	,, ,, ...	8	9·3	30	28·0	—	—
4	,, ,, ...	10	12·0	30	32·3	—	—
5	Danex meal	3·75	3·8	14·0	12·7	4·5	4·7
6	Linseed cake ...	9	8·4	30	32·7	—	—
7	Battery brooder mash	5	5·9	16	19·2	6·5	6·5
8	Growers mash ...	3·5	4·0	17·0	15·3	7·0	6·1
9	Linseed meal ...	7·6	7·1	35·6	34·7	10·2	8·8
10	Chicken biscuit meal with meat —	1·4	2·2	14·05	13·5	·90	·6
11	Poultry biscuit meal with meat ...	1·4	2·2	14·05	14·5	·90	·6
12	Battery brooder mash with cod liver oil ...	5·0	7·0	16·0	16·5	9·0	6·0
17	Battery brooder mash	6·5	5·7	19·0	19·4	7·0	5·3
18	Fine sharps	—	—	—	—	5·75	5·0
19	,, ,, ...	—	—	—	—	5·75	5·6
20	,, ,, ...	—	—	—	—	5·75 P_2O_5	5·2
27	Pilchard meal ...	4·74	5·5	69·0	67·1	6·6	5·9
28	Meat and bone meal ...	10	10·1	50	55·0	12	11·2

G=Guaranteed. F=Found.

In addition to the above, ten samples were examined for the presence of castor bean husk, but in each case this was negative.

The presence of cyanogenetic enzymes was demonstrated in four specimens of linseed cake, and the following amounts of hydrogen cyanide were determined :—

·055%
·047%
·058%
·033%

In three samples of sharps examined, foreign fruits were noted but only in small quantities.

In four cases, the oil was in excess of the amount declared to an extent which was outside the limits of variation. In another instance, the oil and fibre were deficient to an extent outside the limits of variation.

PART IV.

Analysis of water, river water and sewage.

ANALYTICAL DATA (CHEMICAL AND BACTERIOLOGICAL) OF CITY WATER SUPPLY, 1934.

Table 28.

Number of sample	16	62	77	82
Date of collection ...	26 February	26 June	6 November	18 December
Place of collection	Laboratory tap at 36 Queen Sq.	Laboratory tap at 36 Queen Sq.	Laboratory tap at Canynge Hall	Laboratory tap at Canynge Hall
Physical appearance	Clear, colourless, neutral to litmus.			
Remarks on solids	No charring or smell on ignition			
	Parts per 100,000			
Total solids ...	33·05	34·25	29·2	30·5
Mineral matter ...	28·20	26·40	23·3	24·5
Organic matter ...	4·85	7·85	5·9	6·0
Chlorides ...	1·6	1·5	1·5	1·47
N. as nitrate ...	·24	·098	·03	·11
Free ammonia ...	·002	nil	·001	nil
Albuminoid ammonia	·003	·003	·002	·0038
Nitrites	nil	nil	nil	nil
Total hardness ...	14·2°	15·0°	14·5°	11·6°
Permanent hardness	4·2°	4·4°	4·5°	3·6°
Oxygen absorbed 4 hours at 26°C...	·0178	—	—	—
Metals	nil	nil	nil	nil
Colonies per cc. at 37°C	1	1	1	7
Colonies per cc. at 20°C	3	57	8	3
B. coli test ...	Absent in 25 cc.	Absent in 25 cc.	Absent in 100 cc.	Absent in 100 c.c.

Potable water.

Thirty-two samples were examined, four from the city water supply (see table 28), eight from the storage tanks of ships in the

port, eighteen from the medical officer of health, and two from the city engineer.

The samples from ships came from such parts as Sfax, Oran, Algiers (N. Africa), Alexandria, Palermo and Port Said. Three were quite satisfactory, four others though probably of satisfactory origin, had depreciated by storage in transit, and one was practically pure sea-water.

Of the eighteen samples from the medical officer of health, none passed as fit for drinking purposes : four showed evidence of pollution with surface drainage, two sewage pollution and two past pollution. Four were contaminated with foul tidal water and one with zinc, two were unsuitable bacteriologically, two were from brine tanks, and one from an artesian well was unsuitable on account of its very high mineral content.

The two samples from the city engineer were polluted with surface drainage.

Swimming bath water.

Nine samples collected from the various swimming baths throughout the city were examined, and in six cases the water was proved to be sterile.

River water, and sewage.

One hundred and eighty-five samples of river waters have been examined for the city engineer. These have been taken from different positions from Netham to Avonmouth, at high and low water, and at spring and neap tides.

In order to obtain a basis for comparison of the state of the river, as regards the percentage saturation of dissolved oxygen and the percentage of sea water, six points were selected, lying midway between two sewage outfalls, which were called the six "zero" or "datum" points. Samples were collected at high and low water for a week in October, 1934, passing from spring tide to neap. Table 29 gives these six zero points with the average percentage saturation of dissolved oxygen and average percentage of sea water during that period.

Zero points.

Table 29.

		High Water		Low Water	
Point	Position	Dissolved Oxygen per cent. of saturation	Per cent. of sea water	Dissolved Oxygen per cent. of saturation	Per cent. of sea water
A	Lysaght's bridge	25	1	75	0
B	Langton St. bridge	10	35	10	1
C	Vauxhall bridge	30	50	10	4
D	Pontoon, Hotwells	20	40	6	15
E	Sea Mills	90	75	0	25
F	Pill Ferry	94	80	1	35

Weekly examination of the river water at all these points in November 1934, gave very similar figures to those given in the above table, but during December when the rainfall was considerably above the average, it was particularly noticeable that at every point the saturation of dissolved oxygen was above 80% at high water. At low water, this figure varied between 65 and 95%, and there was no sea-water above Sea Mills at any state of the tide.

Sewage.

Thirty-three samples of sewage were examined for the city engineer from seven different main sewers named (T. U. V. W. X. Y. and Z.) The "strength" of the sewage was measured by the dissolved oxygen absorbed in 5 days, the oxygen absorbed from permanganate in four hours at 26°C, and latterly by the chlorine demand. A number of these samples have been collected at two hourly intervals throughout the 24 hours, and graphs have been drawn plotting out the results. It is noticeable that the "peak" period is between 9 a.m. and 1 p.m. at all the seven sewers.

PART V.

Miscellaneous analyses.

(*a*) Rag Flock Act.
(*b*) Toxicology for police.
(*c*) Examinations for medical officer of health.
(*d*) Mineral analysis.
(*e*) Agricultural products.
Grading and Marketing Act.

(*a*) Rag Flock Act.

Four samples of rag flock were examined to see that they conformed to the standard of cleanliness laid down in the regulations under the above Act.

These contained 28, 27, 24 and 16 parts of chlorine per 100,000 as compared with the maximum of 30 parts allowed by the Act.

(*b*) Toxicological examinations.

Received from the police.

(1). (*a*) 46 polished pills, very deep blue.
(*b*) 25 unpolished pills, black.

(*a*) Average weight of pill = ·156 grm.

The stained coating of talc having been removed, the brown contents gave an ash of 6 per cent., the remainder being organic matter and moisture. Lead and alkaloids were absent, but reactions were given for aloes.

(*b*) Average weight of pill = ·258 grm.

The ash was 48·5%, and consisted almost entirely of sodium carbonate. Lead and alkaloids were not detected, but reactions for aloes were given.

They would appear to be two varieties of aloes pill.

(2). Three exhibits in connection with a safe robbery, one from the back of the safe, and two from the " turn-ups " of each of the trousers of two prisoners.

Particles of wood : thin flakes of brittle material, one side glossy brown, the other side light grey : dark grey brittle lumps and powder : these were picked out of each of the three exhibits.

Exhibits	(7)	(8)	(9)	
Total weight	·1165	5·655	·1956	grm.
Weight of glossy brown enamel or paint ...	·015	·35	·006	grm.

Small portions of glossy brown flakes from each of the three exhibits were dissolved in hot concentrated hydrochloric acid, and these solutions gave reactions for antimony in each case.

Conclusive evidence was therefore obtained of the presence of particles of glossy brown enamel or paint, containing antimony, in each of the three exhibits.

(*c*) **Examinations for the medical officer of health.**

(1). Sample of viscera of bullock, and a sample of rodine rat remover.

The rat paste contained yellow phosphorus, but portions of viscera on being subjected to distillation, yielded no evidence of phosphorus.

(2). Sample of powdered adhesive for fixing linoleum at Ham Green Hospital. Quantitative analysis gave the following figures :—

	Per cent.
Moisture	12·1
Casein	62·0
Sodium carbonate ...	16·6
Lime	5·0
Alumina	4·0
	99·7

This is not a gelatinous glue, but one incorporating casein with alkali (quick lime and sodium carbonate). It was concluded that fungoid growth might be encouraged on such an albuminous constituent as casein in the presence of moisture retained between two layers, such as floor and linoleum.

(3). (*a*) Specimen of vomit.

(*b*) Tin of floor polish
from the medical superintendent, Brentry Colony.

After steam distillation, and after extraction with solvents, the products yielded no evidence of floor polish in the sample of vomit.

(4). (*a*) Samples of air.

(*b*) Transformer oil from transformer sub-station of the electrical department. Air temperature = 98°F.

(*a*) About 11 litres of air issuing from ventilator above sub-station were aspirated through a 10% solution of blood. This was examined by the Hartridge reversion spectrometer and proved the absence of carbon monoxide. Also analysis of the air showed no significant quantity of olefines.

(*b*). The oil was examined in parallel with transformer oil used in the University physics department. A number of physical constants were obtained, and the differences noted on subjecting the oils to distillation.

The sample gave off a vapour at 67°C with a strong oily smell and distillation started at 270°C. The University transformer oil was odourless at ordinary temperature and at 67°C.

It was concluded that the warm air from the ventilator was impregnated with oily fumes, disagreeable but harmless. Remedial measures suggested were :

(i) a more refined paraffin oil, or

(ii) a deodoriser such as activated charcoal, or Fuller's Earth, or

(iii) a higher ventilator.

(5). *Received from the Public Assistance Committee.*

A number of samples of food were examined for the above committee and for the contracts sub-committee, these being collected by the food and drugs inspectors, and are merged in with the food and drugs work.

Five samples of soap were examined with the following results :—

Table 30.

Yellow soap.	Per cent.	Specification
Fatty and resin acids ...	52·1	63
Resin acids	8·1	< 14
Free alkali	nil	0·5
Acidity (as oleic acid) ...	·46	—
Silicates	nil	nil
Solution in hot water ...	opalescent	clear

Soap powder.	Per cent.	Per cent.	Specification
Anhydrous sodium carbonate	61·7	61·5	38·5
Fatty acids	17·8	20·2	18·6
Silicate (as sodium silicate)	1·6	2·65	—

Carbolic soap.	15%		2%	
	Per cent.	Specification	Per cent.	Specification
Fatty acids	46·1	48	58	62
Cresols (as cresylic acid)	13·0	15	1·1	2

(*d*) **Mineral Analysis.**

(1). Three samples of house coal, and two of anthracite were examined for the education department, giving the following figures :—

Table 31.

Description	House coal				Anthracite		
Number	1	2	3	Specification	4	5	Specification
Calorific power	13·0	13·0	14·0	11·5	12·2	11·1	13·0
Moisture %	1·5	6·4	7·1	2·5	0·8	1·2	2·5
Ash %	9·0	8·5	1·6	6·0	3·4	2·6	3·0

(2). Two samples of stone from St. George's Library were received from the city estates department.

(*a*) External surface.

(*b*) Internal surface.

Analysis of powdered samples—

Table 32.

	External	Internal
Moisture	1·1	1·9
Siliceous matter	6·1	6·6
Iron and alumina ($Fe_2O_3 + Al_2O_3$) ...	10·8	18·7
Lime (CaO)	44·4	38·2
Magnesia (MgO)	·9	1·2
Carbonic anhydride (CO_2)	33·5	29·9
Sulphuric ,, (SO_3)	·5	·3
Phosphoric ,, (P_2O_5)	·2	·3
	97·5	97·1
Organic matter and unestimated	2·5	2·9
	100·0	100·0

There is more limestone as calcite in the external surface than in the internal, but it is difficult to say whether this is due to heterogeneity of the different layers, or to the weathering of the impurities, and hence their partial disappearance from the external surface.

(*e*) **Agricultural Products Grading and Marketing Act.**

A sample of eggs was received from the inspector under this Act. Each egg was submitted to the rays of the ultra violet lamp, but no evidence of the obliteration of any mark was given.

After testing the eggs for silicate preservative, with negative results, they were opened and the shells tested for porosity. In all cases the shells were porous. The eggs were therefore presumed to be fresh.

PART VI.

Gas Regulation Acts, 1920 and 1929.

The Fairweather continuous recording calorimeter was in use at the Avon Street testing station for the whole year. This station is visited at least twice a week, for the purpose of applying the appropriate correction to the continuous chart for the period between each visit, and this correction is obtained by taking the mean result of two tests of the calorific value. The chart, which is renewed each week, is read for each six-hourly period, the day's average obtained and finally the average for the week. At each visit, the continuous recording chart of the pressure gauge is examined, and also a three minute test made for the purity of the gas (*i.e.*, the absence of sulphuretted hydrogen).

At the Stapleton Road testing station, the prescribed number of testings is 204 (28 being allotted to Sundays) and these are made on the official Boys calorimeter. At each visit, the pressure is measured on a water gauge, and the gas tested for sulphuretted hydrogen.

In a similar manner, the gas is tested at the Canons Marsh testing station, the prescribed number of testings being 152, including 20 on Sundays.

The results of the prescribed testings from the three stations are averaged for each quarter, and the following table gives the figures for the four quarters of the year :—

Table 33.

Quarter ended	Calorific value B.Th.U. (gross) per cubic foot	Pressure	H_2S
31st March	481.7	Above two inches	nil
30th June	481.3	,, ,, ,,	,,
30th September	481.2	,, ,, ,,	,,
31st December	481.7	,, ,, ,,	,,

The declared calorific value is 480 B.Th.U. (gross) per cub. ft.

Compiled from figures supplied by Registrar General.

APPENDIX.

VITAL STATISTICS.

Birth-rates, Death-rates, and Analysis of Mortality in the year 1934.

(Provisional Figures)

	Rate per 1,000 total population		Annual death-rate per 1,000 population.									Rate per 1,000 live births.		Percentage of total deaths.			
	Live Births	Still-Births	All Causes	Typhoid and Paratyphoid fevers	Small-pox	Measles	Scarlet fever	Whooping cough	Diphtheria	Influenza	Violence	Diarrhoea and enteritis (under two years)	Total deaths under one year	Certified by registered medical practitioners	Inquest cases.	Certified by coroner after P.M. No inquest	Uncertified causes of death
England and Wales	14.8	.62	11.8	.00	.00	.09	.02	.05	.10	.14	.54	5.5	59	90.4	6.5	2.1	1.0
121 County boroughs and great towns, including London	14.7	.66	11.8	.00	.00	.12	.02	.06	.11	.12	.47	7.4	63	90.5	6.1	2.9	.5
135 Smaller towns (Estimated Resident Populations 25,000 to 50,000 at Census 1931).	15.0	.67	11.3	.00	—	.07	.02	.04	.09	.14	.42	3.6	53	91.2	6.1	1.6	1.1
London	13.2	.50	11.9	.00	.00	.20	.02	.07	.11	.12	.56	12.6	67	87.7	6.3	6.0	.0
Bristol	13.9	.63	10.9	.00	.00	.03	.002	.04	.04	.06	.55	2.98	46	90.5	9.1	.4	.0

The maternal mortality rates are as follows :

		Puerperal Sepsis.	Others.	Total.	
per 1,000 Live Births ..		2.03	2.57	4.60	England and Wales.
		1.75	2.63	4.38	BRISTOL.
per 1,000 Total Births ..		1.95	2.46	4.41	England and Wales.
		1.68	2.51	4.19	BRISTOL.

Compiled from figures supplied by Registrar General.

CITY AND COUNTY OF BRISTOL.

Population, Births, Deaths, Natural Increase, Infant Mortality, Maternal Mortality, for Calendar Year 1934 and previous years.

	1934	1933	1932	1931	1930	1929	1928	1927	1926	1925
Estimated population (mid year)										
For birth rate ..	410,500	409,400	403,900	399,900	391,335	391,300	390,700	386,000	383,600	386,000
For death rate ..				399,600	391,035	391,000	390,400	385,700	383,300	385,700
Marriages.										
Number	3,435	3,183	3,098	3,287	3,320	3,197	3,059	3,071	2,845	3,012
Rate per 1,000 population	16.7	15.5	15.3	16.4	16.9	16.3	15.7	15.9	14.8	15.6
Births.										
Legitimate—males	2,816	2,759	2,983	2,985	3,076	3,026	3,154	3,146	3,344	3,377
females ..	2,708	2,639	2,865	2,858	2,862	2,871	2,980	2,908	3,135	3,165
Illegitimate—males.. ..	100	98	111	104	122	97	115	128	104	96
females ..	88	96	106	93	97	101	114	119	93	92
Total	5,712	5,592	6,065	6,040	6,157	6,095	6,363	6,301	6,676	6,730
Rate per 1,000 living ..	13.92	13.66	15.01	15.1	15.7	15.6	16.3	16.3	17.4	17.4
Stillbirths.										
Legitimate—males	138	125	139	148	121	151	129	Stillbirths not registrable before 1st July, 1927.		
females ..	102	120	90	90	108	111	123			
Illegitimate—males ..	8	6	5	9	4	6	5			
females ..	9	9	5	4	3	8	2			
Total	257	260	239	251	236	276	259			
Rate per 1,000 total births	43	44	38	40	37	43	39			
Deaths.										
Males	2,197	2,412	2,352	2,310	2,210	2,466	2,202	2,327	2,226	2,554
Females	2,296	2,517	2,340	2,427	2,260	2,606	2,300	2,468	2,193	2,628
Total	4,493	4,929	4,692	4,737	4,470	5,072	4,502	4,795	4,419	5,182
Rate per 1,000 population	10.92	12.04	11.6	11.8	11.4	12.9	11.5	12.4	11.5	13.4
Deaths under 1 year.										
Legitimate ..	246	286	303	282	331	340	354	340	439	470
Rate per 1,000 births ..	45	53	52	48	56	58	58	56	68	72
Illegitimate	19	20	17	21	23	24	21	23	30	41
Rate per 1,000 births ..	101	103	78	107	105	121	92	93	152	218
Total deaths	265	306	320	303	354	364	375	363	469	511
Rate per 1,000 births ..	46	55	53	50	57	60	59	58	70	76
Natural increase per 1,000 population	3.00	1.62	3.52	3.3	4.3	2.6	4.8	3.9	5.9	4.0
Diarrhoea and Enteritis—(under two years)										
Deaths	17	29	43	16	26	27	30	29	38	59
Rate per 1,000 births ..	2.98	5.2	7.1	2.65	4.22	4.43	4.71	4.60	5.69	8.77
Childbirth (Mothers).										
Deaths	25	25	18	19	14	15	11	11	10	13
Rate per 1,000 births ..	4.38	4.47	2.96	3.15	2.27	2.46	1.73	1.75	1.50	1.93
Puerperal Fever.										
Deaths	10	11	6	10	8	12	3	8	13	23
Rate per 1,000 births ..	1.75	1.96	0.99	1.66	1.30	1.97	0.47	1.27	1.95	3.42

Figures from Registrar General's Returns.

Births.

Year	Bristol		England and Wales.
	Number of Births.	Birth Rate.	
1881–1885	34,574	33.0	33.5
1886–1890	33,279	30.6	31.4
1891–1895	33,091	29.4	30.5
1896–1900	40,420	26.5	29.3
1901–1905	46,280	27.2	28.2
1906–1910	43,805	23.5	26.3
1911–1915	38,666	21.6	23.6
1916–1920	35,732	19.0	20.1
1921–1925	36,795	19.1	19.9
1926–1930	31,592	16.3	16.7
1923	7,347	19.1	19.7
1924	6,940	18.0	18.8
1925	6,730	17.4	18.3
1926	6,676	17.4	17.8
1927	6,301	16.3	16.6
1928	6,363	16.3	16.7
1929	6,095	15.6	16.3
1930	6,157	15.5	16.3
1931	6,040	15.1	15.8
1932	6,065	15.0	15.3
1933	5,592	13.6	14.4
1934	5,712	13.9	14.8

Deaths.

Year	BRISTOL		England and Wales.
	Number of deaths.	Death rate.	
1881–1885	20,168	19.2	19.4
1886–1890	21,164	19.5	18.9
1891–1895	21,199	18.8	18.7
1896–1900	24,630	16.1	17.7
1901–1905	26,609	15.6	16.0
1906–1910	24,818	13.3	14.7
1911–1915	25,367	14.1	14.3
1916–1920	24,747	14.1	14.4
1921–1925	23,411	12.2	12.2
1926–1930	23,258	11.9	12.1
1923	4,371	11.3	11.6
1924	4,701	12.2	12.2
1925	5,182	13.4	12.2
1926	4,419	11.5	11.6
1927	4,795	12.4	12.3
1928	4,502	11.5	11.7
1929	5,072	12.9	13.4
1930	4,470	11.4	11.4
1931	4,737	11.8	12.3
1932	4,692	11.6	12.0
1933	4,929	12.0	12.3
1934	4,493	10.9	11.8

Figures from Registrar General's Returns.

Infant Mortality.

Year	BRISTOL.		England and Wales
	Number of deaths under one year	Rate per 1,000 births	
1881–1885	4,858	140	139
1886–1890	4,789	144	145
1891–1895	4,767	144	151
1896–1900	6,000	148	156
1901–1905	5,863	127	138
1906–1910	4,804	110	117
1911–1915	4,293	111	110
1916–1920	3,076	86	90
1921–1925	2,549	69	76
1926–1930	1,925	61	68
1923	456	62	69
1924	493	71	75
1925	511	76	75
1926	469	70	70
1927	363	58	70
1928	375	59	65
1929	364	60	74
1930	354	57	60
1931	303	50	66
1932	320	53	65
1933	306	55	64
1934	265	46	59

Maternal Mortality.

Year	PUERPERAL SEPSIS			OTHER PUERPERAL CAUSES.			ALL CAUSES.		
	Bristol		England and Wales.	Bristol		England and Wales.	Bristol		England and Wales
	Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births		Number of deaths	Rate per 1,000 births	
1891-1895	67	2.02	2.60	102	3.08	2.89	169	5.11	5.49
1896-1900	69	1.71	2.12	89	2.20	2.57	158	3.91	4 69
1901-1905	70	1.51	1.95	155	3.35	2.32	225	4.86	4.27
1906-1910	63	1.44	1.56	90	2.05	2.18	153	3.49	3 74
1911-1915	56	1.45	1.42	97	2.51	2.61	153	3.96	4.03
1916-1920	51	1.43	1.51	79	2.21	2.61	130	3.64	4.12
1921-1925	49	1.33	1.40	83	2.26	2.50	132	3.59	3.90
1926-1930	44	1.39	1.73	61	1.93	2.54	105	3.32	4.27
1923	6	0.82	1.30	18	2.45	2.51	24	3.27	3.81
1924	8	1.15	1.39	19	2.74	2.51	27	3.89	3.90
1925	23	3.42	1.56	13	1.93	2.52	36	5.35	4.08
1926	13	1.95	1.60	10	1.50	2.52	23	3.45	4.12
1927	8	1.27	1.57	11	1.75	2.54	19	3.02	4.11
1928	3	0.47	1.79	11	1.73	2.63	14	2.20	4.42
1929	12	1.97	1.80	15	2.46	2.53	27	4 43	4.33
1930	8	1.30	1.92	14	2.27	2.48	22	3.57	4.40
1931	10	1.66	1.66	9	1.48	2.45	19	3.15	4.11
1932	6	0.99	1.61	12	1.97	2.63	18	2.96	4.24
1933	11	1.96	1.79	14	2.51	2.63	25	4 47	4.42
1934	10	1.75	2.03	15	2.63	2.57	25	4.38	4.60

Compiled from figures supplied by Registrar General.

1934.

Principal Causes of Death during calendar year.

Death Rate per 1,000	Disease.	Net deaths in 1934	% to total deaths
.00	Typhoid and paratyphoid fevers ...	—	—
.03	Measles	12	.27
.002	Scarlet fever	1	.02
.04	Whooping cough	18	.40
.04	Diphtheria	17	.38
.06	Influenza	24	.54
.03	Encephalitis lethargica	13	.29
.03	Cerebro-spinal fever	12	.27
.74	Tuberculosis of respiratory system	302	6.72
.13	Other tuberculous diseases ...	52	1.16
.05	Syphilis	19	.42
.03	General paralysis of the insane, tabes dorsalis	14	.31
1.60	Cancer, malignant disease	650	14.46
.17	Diabetes	68	1.51
.59	Cerebral haemorrhage, etc.... ...	240	5.34
2.80	Heart disease	1,150	25.61
.06	Aneurysm	24	.54
.49	Other circulatory diseases ...	201	4.47
.33	Bronchitis	135	3.00
.55	Pneumonia (all forms)	225	5.01
.16	Other respiratory diseases	67	1.49
.09	Peptic ulcer	41	.92
.07	Diarrhoea, etc.	29	.64
.07	Appendicitis	30	.67
.03	Cirrhosis of liver	15	.33
.05	Other diseases of liver, etc. ...	23	.51
.26	Other digestive diseases	106	2.36
.37	Acute and chronic nephritis ...	153	3.41
.02	Puerperal sepsis	10	.22
.04	Other puerperal causes	15	.33
.40	Congenital debility, premature birth, malformations, etc. ...	165	3.67
.18	Senility	75	1.67
.15	Suicide	61	1.36
.40	Other violence	163	3.63
.88	Other defined diseases	361	8.03
.005	Causes ill-defined or unknown ...	2	.04
10.92		4,493	100.00

CITY AND COUNTY OF BRISTOL (INCLUDING PORT).

Cases of Infectious Disease notified with Mean Attack Rates per 100,000 population for quinquennial periods.

Disease*	1890/1894		1895/1899		1900/1904		1905/1909		1910/1914		1915/1919		1920/1924		1925/1929		1930/1934		1930	1931	1932	1933	1934
	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate					
Smallpox	386	35	58	4	86	5	93	5	66	4	33	2	8	.4	71	4							
Plague											4	.2					1	.04			1		
Diphtheria	501	45	1,060	80	4,708	282	4,422	240	3,178	174	2,156	124	4,993	261	4,223	218	4,246	211	1,484	828	543	640	751
Erysipelas	820	73	1,244	94	1,610	96	1,208	65	1,277	70	920	53	897	46	795	41	787	39	174	146	136	166	165
Scarlet Fever	4,579	410	3,504	264	10,313	617	4,168	227	6,698	361	2,596	149	7,114	372	6,197	315	3,716	185	811	453	638	770	1,044
Typhus	1	.09					1	.05					1	.05	1	.05							
Enteric fever	586	52	881	66	1,191	71	9	.5	474	26	218	13	188	10	140	7	83	4	22	29	17	11	4
Relapsing Fever							439	24					1	.05									
Continued fever	24	2	5	.4	5	.3			4	.2	2	.1	1	.05			1	.04			1		
Puerperal fever	104	9	101	8	186	11	161	9	137	7	111	6	156	8	159	8	64	3	18	23	14	4	5
Pulmonary tuberculosis ...							2,618	142	4,101	225	6,749	388	4,443	232	3,399	176	2,560	127	568	569	453	498	472
Cerebro spinal fever ...							1	.05	55	3	132	8	27	1	20	1	69	3	7	19	16	10	17
Anterior polio-myelitis ...									27	1	38	2	61	3	40	2	21	1	1	2	7	3	8
Tuberculous meningitis ...									95	5	211	12	167	9	102	5	63	3	12	15	13	12	11
Tuberculosis of: Peritoneum and intestines									151	8	305	18	255	13	189	10	123	6	22	21	24	24	32
Tuberculosis of: Spinal column									56	3	51	3	81	4	61	3	61	3	12	15	13	11	10
Tuberculosis of: Joints									111	6	107	6	165	9	141	7	111	6	12	21	19	25	34
Tuberculosis of: Other organs									287	16	760	44	355	19	313	16	279	14	26	50	79	67	57
Ophthalmia neonatorum ...									70	4	421	24	510	26	201	10	151	7	19	22	40	35	35
Measles											12,981	740			1	.05							
Primary Pneumonia ...											159	9	1,172	61	1,856	96	1,477	73	272	289	291	321	304
Influenzal pneumonia ...											388	22	758	40	902	47	516	26	37	121	126	193	39
Malaria											130	7	270	14	33	2	24	1	4	2	10	3	5
Dysentery											13	.8	46	2	139	7	214	11	26	44	128	8	8
Trench fever											1	.05											
Encephalitis lethargica ...											19	1	294	15	150	8	43	2	7	9	7	9	11
Polio encephalitis													4	.2	6	.3	2	.1		2			
Puerperal pyrexia															213	11	241	12	71	39	44	46	41
Chicken pox															1,815	94							
Total ...	**7,001**	627	**6,853**	516	**18,099**	1,137	**13,120**	713	**16,787**	920	**28,505**	1,638	**21,967**	1,148	**21,167**	1,093	**14,853**	737	**3,605**	**2,719**	**2,620**	**2,856**	**3,053**

* In order in which notification commenced—dates listed overleaf.

Annual figures since 1890 will be found in the report for 1933.

CITY AND COUNTY OF BRISTOL (INCLUDING PORT).

Cases of Infectious Disease notified with Mean Attack Rates per 100,000 population for quinquennial periods.

Disease*	1890/1894		1895/1899		1900/1904		1905/1909		1910/1914		1915/1919		1920/1924		1925/1929		1930/1934		1930	1931	1932	1933	1934
	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate	Total	Mean attack rate					
Smallpox	386	35	58	4	86	5	93	5	66	4	33	2	8	.4	71	4							
Plague											4	.2					1	.04			1		
Diphtheria	501	45	1,060	80	4,708	282	4,422	240	3,178	174	2,156	124	4,993	261	4,223	218	4,246	211	1,484	828	543	640	751
Erysipelas	820	73	1,244	94	1,610	96	1,208	65	1,277	70	920	53	897	46	795	41	787	39	174	146	136	166	165
Scarlet Fever	4,579	410	3,504	264	10,313	617	4,168	227	6,698	361	2,596	149	7,114	372	6,197	315	3,716	185	811	453	638	770	1,044
Typhus	1	.09					1	.05					1	.05	1	.05							
Enteric fever	586	52	881	66	1,191	71	9	.5	474	26	218	13	188	10	140	7	83	4	22	29	17	11	4
Relapsing Fever							439	24					1	.05									
Continued fever	24	2	5	.4	5	.3			4	.2	2	.1	1	.05			1	.04			1		
Puerperal fever	104	9	101	8	186	11	161	9	137	7	111	6	156	8	159	8	64	3	18	23	14	4	5
Pulmonary tuberculosis ...							2,618	142	4,101	225	6,749	388	4,443	232	3,399	176	2,560	127	568	569	453	498	472
Cerebro spinal fever ...							1	.05	55	3	132	8	27	1	20	1	69	3	7	19	16	10	17
Anterior polio-myelitis ...									27	1	38	2	61	3	40	2	21	1	1	2	7	3	8
Tuberculous meningitis ...									95	5	211	12	167	9	102	5	63	3	12	15	13	12	11
Tuberculosis of: Peritoneum and intestines									151	8	305	18	255	13	189	10	123	6	22	21	24	24	32
Tuberculosis of: Spinal column									56	3	51	3	81	4	61	3	61	3	12	15	13	11	10
Tuberculosis of: Joints									111	6	107	6	165	9	141	7	111	6	12	21	19	25	34
Tuberculosis of: Other organs									287	16	760	44	355	19	313	16	279	14	26	50	79	67	57
Ophthalmia neonatorum ...									70	4	421	24	510	26	201	10	151	7	19	22	40	35	35
Measles											12,981	740			1	.05							
Primary Pneumonia ...											159	9	1,172	61	1,856	96	1,477	73	272	289	291	321	304
Influenzal pneumonia ...											388	22	758	40	902	47	516	26	37	121	126	193	39
Malaria											130	7	270	14	33	2	24	1	4	2	10	3	5
Dysentery											13	.8	46	2	139	7	214	11	26	44	128	8	8
Trench fever											1	.05											
Encephalitis lethargica ...											19	1	294	15	150	8	43	2	7	9	7	9	11
Polio encephalitis													4	.2	6	.3	2	.1		2			
Puerperal pyrexia															213	11	241	12	71	39	44	46	41
Chicken pox															1,815	94							
Total ...	**7,001**	627	**6,853**	516	**18,099**	1,137	**13,120**	713	**16,787**	920	**28,505**	1,638	**21,967**	1,148	**21,167**	1,093	**14,853**	737	**3,605**	**2,719**	**2,620**	**2,856**	**3,053**

* In order in which notification commenced—dates listed overleaf.

Annual figures since 1890 will be found in the report for 1933.

DATES ON WHICH NOTIFICATION COMMENCED :—

Infectious Disease Notification Act, 1889	12th Feb., 1890.
Pulmonary Tuberculosis—Voluntary Notification	5th Sept., 1905.
Cerebro Spinal Fever—Local Order (6 months)	25th Mar., 1907.
Tuberculosis (Pulmonary, Poor Law) Regulations, 1908	1st Jan., 1909.
,, ,, Hospitals ,, 1911	1st May, 1911.
Cerebro Spinal Fever and Anterior Polio-Myelitis—Local Order (6 months)...	9th Oct., 1911.
Tuberculosis (Pulmonary, General) Regulations, 1911...	1st Jan., 1912.
Cerebro Spinal Fever and Anterior Polio-Myelitis—Local Order (permanent)	4th April, 1912.
,, ,, ,, ,, ,, General Order, 1912 ...	1st Sept., 1912.
Tuberculosis (all forms) Regulations, 1912	1st Feb., 1913.
Ophthalmia Neonatorum Regulations, 1914	1st April, 1914.
Measles and German Measles Order, 1915	1st Jan., 1916.
Encephalitis Lethargica and Polio-Encephalitis Regulations, 1918 ...	1st Jan., 1919.
Pneumonia, Malaria, Dysentery, etc., Regulations, 1919	1st Mar., 1919.
Puerperal Pyrexia Regulations, 1926	1st Oct., 1926.
Malaria, Dysentery and Pneumonia Regulations, 1927 (revoking Regulations of 1919)	1st Jan., 1928
Chicken Pox—Local Order (9 months)	21st Mar., 1928.

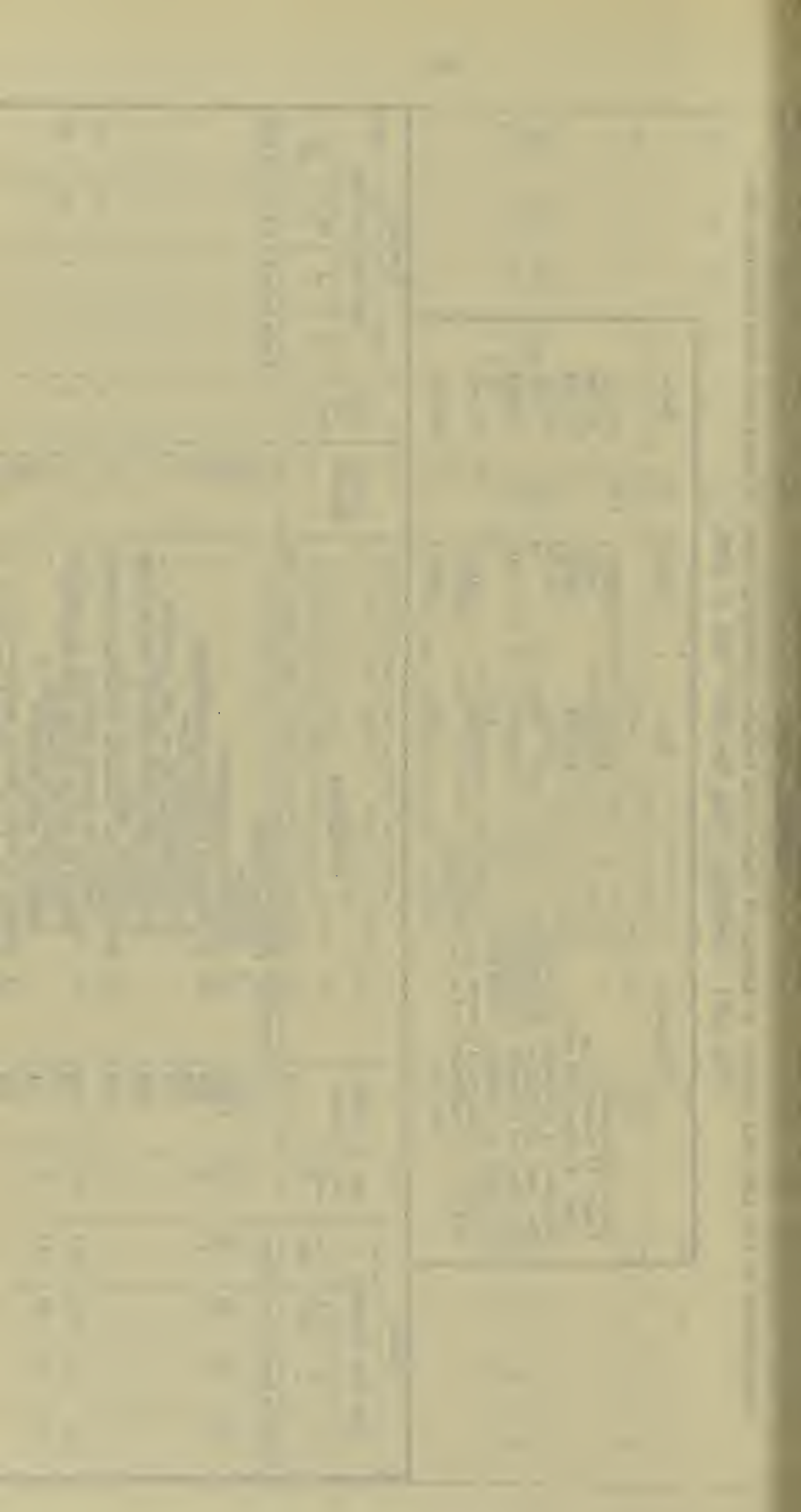
Results of Meteorological Observations during 1934.

		January	February	March	April	May	June	July	August	September	October	November	December	Year
PRESSURE.	Mean pressure — inches	30.111	30.456	29.683	29.734	30.079	30.043	30.012	29.876	29.939	29.976	30.033	29.544	29.957 inches
	Greatest pressure — inches	30.712 (31st)	30.933 (15th)	30.388 (25th)	30.138 (30th)	30.412 (10th)	30.300 (3rd)	30.310 (3rd)	30.238 (26th)	30.320 (12th)	30.441 (11th)	30.664 (25th)	30.273 (1st)	30.933 (Feb. 15)
	Least pressure — inches	29.005 (15th)	29.741 (28th)	28.874 (17th)	29.120 (24th)	29.419 (16th)	29.722 (19th)	29.599 (31st)	29.364 (2nd)	29.629 (24th)	28.945 (4th)	29.053 (10th)	28.608 (15th)	28.608 (Dec. 15)
RAINFALL	Total rainfall at Bishopston — inches	2.95	0.25	2.17	2.39	1.55	1.30	2.84		2.46	2.06	1.21	6.42	25.60 inches
	Departure from average — inches	+0.04	—2.22	—0.26	+0.07	—0.65	—1.26	—3.67		—0.40	—1.92	—2.12	+2.90	—9.49 inches
	Heaviest fall in 24 hours — inches ...	0.50 (13th)	0.21 (24th)	0.34 (14th)	0.43 (25th)	0.60 (6th)	0.44 (21st)	?	?	0.88 (2nd)	0.65 (4th)	0.50 (9th)	0.58 (28th)	0.88 (Sept. 2)
	Number of rainy days	19	2	20	17	10	11	20		20	18	12	28	177
	Total rainfall at Frampton Cotterell —inches	2.58	0.26	1.79	2.22	1.33	1.03	1.35	1.89	2.33	2.01	1.11	6.24	24.14 inches
	Departure from average— inches	—0.24	—1.96	—0.37	+0.34	—0.73	—1.11	—1.59	—1.28	—0.08	—1.29	—1.65	+2.51	—7.45 inches
	Heaviest fall in 24 hours — inches ...	0.48 (11th)	0.23 (24th)	0.26 (16th)	0.40 (25th)	0.54 (6th)	0.33 (21st)	0.76 (21st)	0.52 (5th)	0.94 (2nd)	0.35 (4th)	0.40 (9th)	0.67 (1st)	0.94 (Sept. 2nd)
	Number of rainy days	20	3	20	18	7	8	7	14	16	20	12	27	172
	Departure from average—inches	+2.2	—11.5	+4.2	+3.3	—7.2	—4.3	—7.4	—2.1	+3.6	+3.3	—3.7	+7.7	—11.9
TEMPERATURE	Mean temperature —degrees ...	39.4	37.7	41.9	47.4	53.8	61.1	66.6	60.25	57.4	51.3	43.1	46.8	50.56 degrees
	Departure from average —degrees ...	—0.4	—2.4	—0.4	+1.0	+0.3	+3.5	+5.2	+0.55	+1.5	+1.3	+0.4	+5.9	+1.4 degrees
	Maximum shade temperature —degrees ...	53.5 (18th)	52.8 (20th)	56.8 (25th)	68.3 (15th)	79.8 (12th)	82.2 (17th)	87.7 (10th)	76.9 (18th)	79.5 (14th)	64.8 (6th)	54.4 (3rd)	55.1 (8th)	87.7 dgs. (July10)
	Minimum temperature —degrees ...	22.4 (1st)	20.7 (3rd)	20.9 (1st)	23.1 (8th)	33.6 (15th)	44.6 (4th)	47.2 (25th)	36.0 (31st)	40.0 (1st)	25.0 (31st)	25.6 (1st)	29.9 (26th)	20.7 (Feb. 3rd)
	Extreme range	31.1	32.1	35.9	45.2	46.2	37.6	40.5	40.9	39.5	39.8	28.8	25.2	67.0 degrees
SUNSHINE, HUMIDITY, &c.	Hours of sunshine (estimated)	74	111½	109	109	219	215	276	194	156	103	32	54	1652½
	Departure from average	+12	+32½	—4½	—37	+33	+23½	+92	+23	+5	—8½	—48½	—7	+115½
	Days of sunshine	5	15	7	6	18	14	20	16	17	8	2	5	133
	Days overcast	7	3	7	4	3	1	0	2	4	3	18	8	60
	Mean humidity at 9 a.m.	90.7%	88.56%	86.05%	83.2%	78.2%	75.7%	69%	80.4%	82.45%	87.6%	93.5%	94.9%	84.2%
	Days with fog	5	13	1	1	1	1	0	1	1	0	11	1	36
	Days with thunder	0	0	1	1	1	3	5	1	1	2	0	1	16
	Days lightning only	0	0	0	0	1	0	1	0	0	0	0	0	2
	No. of frosty nights	13	14	8	1	0	0	0	0	0	1	4	1	42
	No. of frosty nights on grass	16	23	20	5	2	0	0	0	0	5	11	5	87

Occupations in the City and County of Bristol of males and females (abridged) aged 14 years and over showing also the total "operatives" and the total "out of work."

Occupation	Males	Females	Total
Total population	185,125	211,887	397,012
Under 14 years of age	43,548	42,220	85,768
Aged 14 years and over	141,577	169,667	311,244
Numbers of operatives (in work) ...	95,969	51,368	147,337
Per cent. of occupied (1–XXXI) ...	74.7	85.6	78.2
Number out of work (all classes) ...	16,558	3,916	20,474
Per cent. of occupied (1–XXXI) ...	12.9	6.5	10.9
1–XXXI Occupied 14 years and over ...	128,445	60,016	188,461
XXXII. Unoccupied and retired 14 years and over	13,132	109,651	122,783

Males						Occupation	Total females	Out of work	Females			
Age last birthday				Out of work	Total males				Age last birthday			
14	15	16 & 17	18—20						14	15	16 & 17	18—20
2,865	3,002	6,459	9,972	—		TOTAL POPULATION.		—	2,992	3,031	7,112	10,836
—	—	—	—	—	—	I. *Fishermen.*	—					
10	22	54	80	17	1,532	II. *Agricultural occupations*	54					
—	2	5	43	33	663	III. *Mining and quarrying occupations.*	—					
					539	In coal and shale mines	—					
					4	In metalliferous mines and workings ...	—					
					120	In other mines and quarries and at brine and oil wells	—					
					130	IV. *Workers in the treatment of non-metalliferous mine and quarry products.*	—					
					99	Makers of coal gas, coke and by-products (excluding tar distilling)	—	3	7	7	24	30
1	9	23	41	7	31	Makers of other products	—					
					511	V. *Makers of bricks, pottery and glass*	116					
					350	Makers of bricks, tiles and pottery ...	104					
					161	Makers of glass and glass ware	12					
—	—	9	11	1	576	VI. *Workers in chemical processes; makers of paints, oil, etc.*	36					
					197	Workers in chemical processes	8					
					379	Makers of paints, oils (not mineral), etc.	28					
112	188	640	1,031	220	11,877	VII. *Metal workers (not electro plate or precious metals*	173	6	4	3	18	36
					778	Employers, managers, foremen ...	4					
					235	Furnacemen (not annealing or foundry), rollers, and their assistants	—					
					446	Foundry workers	—					
					651	Smiths and skilled forge workers ...	2					
					894	Metal machinists	14					
					4,851	Fitters	9					
					4,022	Other workers	144					
					83	VIII. *Workers in precious metals and electro plate* ...	23					
5	29	98	145	13	1,675	IX. *Electrical apparatus makers and fitters (not elsewhere enumerated) and electricians* ...	11					
						X. *Makers of watches, clocks, and scientific instruments*	3					
3	7	24	52	7	597	XI. *Workers in skins and leather and makers of leather and leather substitute goods (not boots or shoes).*		4	5	9	15	30
					441	Furriers, skinners, tanners and leather dressers	42					
					156	Makers of leather and leather substitute goods (not boots or shoes)	79					
1	3	7	12	5	140	XII. *Textile workers.*	195	8	3	4	18	29
26	52	85	128	23	3,485	XIII. *Makers of textile goods and articles of dress* ...	5,943	94	167	217	499	742
23	33	113	202	38	3,362	XIV. *Makers of foods, drinks, and tobacco.* ...	4,251	38	108	339	595	631
					2,192	Makers of foods	1,113					
					192	Makers of alcoholic drinks	95					
					36	Makers of non-alcoholic drinks	7					
					942	Makers of tobacco, cigars, cigarettes, snuff	3,036					
57	94	301	502		5,826	XV. *Workers in wood and furniture*	228	6	5	4	25	56
					5,100	Workers in wood	92					
					726	Upholsterers, &c.	136					
1	6	41	65	1	865	XVI. *Makers of and workers in paper and cardboard, bookbinders, &c.*	2,823	46	89	154	429	523
					165	Makers of paper and cardboard	44					
					700	Makers of stationery and cardboard boxes; bookbinders and other workers in paper	2,779					
61	85	201	270	26	2,797	XVII. *Printers and photographers*	974	20	38	65	193	225
14	37	148	328	59	7,302	XVIII. *Builders, bricklayers, stone and slate workers; contractors*	7					
15	23	107	225	35	3,450	XIX. *Painters and decorators*	153					
					180	XX. *Workers in other materials*	194					
					41	Workers in rubber	61					
					1	Workers in bone, horn, ivory, celluloid, vulcanite	1					
					138	Workers in other materials	132					
					701	XXI. *Workers in mixed or undefined materials (not elsewhere enumerated)*	51	15	15	21	72	95
13	16	49	77	10	153	Makers of musical instruments not piano etc., case makers)	4					
					183	Makers of vehicles (not returned as metal workers or wood workers)	3					
					113	Builders of ships and boats (not returned as metal workers or wood workers) ...	—					
					252	Makers of other products	44					
					20,844	XXII. *Persons employed in transport and communication*	646					
—	7	76	77	4	3,461	Railway transport workers	7					
45	70	178	695	93	7,933	Road transport workers	35					
					5,322	Water transport workers	13	14	48	31	61	91
617	659	806	557	236	4,128	Other workers in transport and communication	591					
128	246	773	1,265	149	18,071	XXIII. *Commercial, finance, and insurance occupations (excluding clerks)*	6,960	151	145	207	603	1,071
					16,537	Commercial occupations	6,923					
					1,534	Persons employed in finance and insurance	37					
						XXIV. *Persons employed in public administration and defence (excluding professional men, clerical staff, and typists.*						
—	—	—	6	—	1,155	(1) Public Administration ...						
—	2	4	145	—	500	(2) Defence	38	—	—	—	—	1
5	15	59	142	7	3,451	XXV. *Professional occupations (excluding clerical staff)*	4,426	6	2	6	47	362
3	8	35	40	10	758	XXVI. *Persons professionally engaged in entertainments and sport*	165	11	—	2	8	15
64	59	182	283	52	4,224	XXVII. *Persons engaged in personal service (including institutions clubs, hotels, &c.)* ...	18,763	352	303	523	1,537	2,626
46	134	650	1,327	70	9,984	XXVIII. *Clerks and draughtsmen, typists*	6,587	91	67	146	721	1,394
49	81	212	335	47	4,411	XXIX. *Warehousemen, storekeepers, and packers* ...	4,002	74	148	213	512	731
2	1	8	32	6	1,147	XXX. *Stationary engine drivers, dynamo and motor attendants*	3					
265	331	876	1299	646	17,966	XXXI. *Other and undefined workers*	3,070					
1,299	783	695	557	—	13,132	XXXII. *Retired or not gainfully occupied*	109,651	—	1,628	829	1,241	1,583
84	616	474	340	—		XXXIII. *Students in educational institutions, &c.* ...		—	824	499	516	351
1,566	2,219	5,764	9,415	1,863		1–XXXI. *Occupied*		1,182	1,364	2,202	5,871	9,253



CENSUS 1931.

Dwellings, Rooms and families, 1931, Distribution and intrecensal changes.

	County Boroughs	Bristol
Number of occupied dwellings consisting of :		
1—3 rooms	499,400	3,747
4—5 rooms	1,610,659	43,049
6—8 rooms	728,290	31,318
9 or more rooms	76,696	5,470
All sizes	2,915,045	83,584
Number per 1,000 occupied dwellings consisting of :—		
1—3 rooms	171	45
4—5 rooms	553	515
6—8 rooms	250	375
9 or more rooms	26	65
Increase 1921-1931 in number of occupied dwellings :		
Number	438,897	11,114
Per 1,000	177	153
Number of wholly vacant dwellings per 1,000 occupied :		
1931—Furnished	8	7
others	13	16
1921—all classes	22	22
Rooms occupied by private families ...	14,039,089	468,929
Private families :		
Total 1931	3,203,875	104,360
Increase 1921—1931	483,582	13,189
Excess of private families over dwellings occupied :		
1931	288,830	20,776
1921	244,145	18,701
Rooms (occupied and vacant) per occupied dwelling :		
1931	4.83	5.65
1921	4.84	5.65
Private families per occupied dwelling :		
1931	1.10	1.25
1921	1.10	1.26
Population per occupied dwelling :		
1931	4.13	4.53
1921	4 62	4.99

Incidence of Overcrowding.

Census, 1931	In private families		In population	
	County Boroughs	Bristol	County Boroughs	Bristol
1931				
No. of private families at following densities (persons per room) :				
More than 3	33,946	571	226,988	3,681
More than 2 but not more than 3	114,054	2,446	756,388	16,369
More than 1½ but not more than 2	261,910	6,776	1,493,482	38,905
More than 1 but not more than 1½	487,595	14,978	2,509,035	76,277
No. per 1,000 private families at following densities (persons per room) :				
More than 3	11	5	19	10
More than 2 but not more than 3	36	23	63	43
More than 1½ but not more than 2	82	65	124	103
More than 1 but not more than 1½	152	144	208	201
1921				
No. per 1,000 private families at following densities (persons per room) :				
More than 3	13	5	21	8
More than 2 but not more than 3	52	35	87	61
More than 1½ but not more than 2	114	94	165	141
More than 1 but not more than 1½	186	172	238	229

Summary of Dwellings, private families and occupations.

Census, 1931	County Boroughs	Bristol
Dwellings occupied by private families (b)	2,915,045	83,584
Percentage of vacant unfurnished dwellings (c)	1.28	1.57
Rooms occupied by private families (*d*) ...	14,039,089	468,929
Private families (e)	3,203,875	104,360
Population in private families (f) ...	12,052,439	378,865
Rooms per occupied dwelling (g) ...	4.82	5.61
Families per occupied dwelling (h) ...	1.10	1.25
Persons per family :		
1931 (i)	3.76	3.63
1921 (j)	4.21	3.97
Persons per room :		
1931 (k)	0.86	0.81
1921 (l)	0.96	0.89
Percentage living more than two persons per room :		
Private families 1931 (m) ...	4.62	2.89
Population 1931 (n)	8.16	5.29
,, 1921 (o)	—*	6.89

NOTE.—(1) The rooms in column (d) are exclusive of unoccupied rooms in dwellings normally occupied by more than one family : the average number of rooms per occupied dwelling (column (g)) is calculated on the actual rooms in occupation.

(2) Where an asterisk has been inserted comparative figures are not available.

Overcrowding.—Arrangement of areas according to their proportions of families housed at densities exceeding 2 persons per room.

	Bristol
Number per 1,000 total private families at densities exceeding :—	
3 persons per room	5
2 ,, ,, ,, ...	29
1½ ,, ,, ,, ...	94
Number per 1,000 total private family population at densities exceeding :	
3 persons per room	10
2 ,, ,, ,, ...	53
1½ ,, ,, ,, ...	156

Supplied by the City Treasurer.

COSTING RETURNS, 1934-35.

Statement showing the average cost per patient per week of the treatment of patients.

Items.	Southmead Hospital.		Ham Green Hospital.		Novers Hill Hospital		Ham Green Sanatorium		Frenchay Park Sanat'm	
	Gross total cost	Average cost per patient per week	Gross total cost	Average cost per patient per week	Gross total cost	Average cost per patient per week	Gross total cost	Average cost per patient per week	Gross total cost	Average cost per patient per week
	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.	£	£ s. d.
Salaries, wages, uniforms & dresses of staff, etc.:										
(*a*) Medical staff	2,639	2 2½	1,223	2 11	114	1 8	816	2 2	683	2 10½
(*b*) Matron and nursing staff	5,632	4 8	2,922	7 0	485	7 1	1,948	5 2½	1,114	4 8½
(*c*) Other staff	9,874	8 2	3,312	7 11	882	12 11	2,208	5 10½	1,693	7 1½
(*d*) Council's contributions to superannuation fund	1,582	1 3½	546	1 3½	86	1 3	363	11½	163	8½
(*e*) Employers' contributions in respect of National Health and Pensions and Unemployment Insurance	362	3½	169	5	33	5½	113	3½	53	2½
Provisions for patients and staff	12,162	10 1	2,878	6 10½	665	9 9	6,668	17 9½	2,103	8 10
Drugs and medical and surgical appliances ...	4,001	3 4	1,456	3 6	12	3	970	2 7	341	1 5
Clothing of inmates	...	...	...	...	...	...	...	...	...	...
Superannuation allowances under the Poor Law Acts	...	...	...	...	...	...	...	...	...	...
Fuel, light, water and laundry, wages of laundry staff and cost of laundry materials	5,452	4 6½	2,711	6 6	280	4 1	1,807	4 10	1,087	4 7
Domestic renewals, repairs and additions ...	1,438	1 2½	717	1 8½	25	4½	477	1 3½	396	1 8
Structural additions, alterations, renewals, repairs and painting	4,188	3 5½	1,892	4 6	53	9½	1,262	3 4½	1,184	5 0
Ambulance and other transport	615	6	1,183	2 10	180	2 7½	789	2 1½	271	1 1½
Expenditure on farm and garden	...	...	877	2 1	...	...	584	1 6½	380	1 7
Miscellaneous expenditure	1,227	1 0	348	10	107	1 6½	233	7½	187	9½
Rent, rates (excluding water rates, taxes and insurance), etc.	1,051	10½	933	2 3	126	1 10	621	1 8	434	1 10
Loan charges	3,966	3 3½	3,787	9 1	173	2 6½	5,216	13 11	3,485	14 8
Grand Totals ...	54,189	£2 4 11	24,954	£2 19 8½	3,221	£2 7 2	24,075	£3 4 3	13,574	£2 17 1½
Deduct.—Income other than income in respect of the treatment of patients, viz.:—										
(*a*) Income from farm and garden ...	...	...	1,360	3 9			935	2 10½	398	2 1½
(*b*) Other income, including sale of garden produce where no separate farm and garden accounts	1,301	1 1	216		149	2 2	144		104	
Net Totals	£52,888	£2 3 10	£23,378	£2 15 11½	£3,072	£2 5 0	£22,996	£3 1 4½	£13,072	£2 15 0
	Whole institution.		Whole institution.		Whole institution.		Whole institution.		Whole institution.	
Average number of beds, excluding cots in maternity wards	488		265		62		154		96	
Average number of beds excluding cots in maternity wards occupied										
By medical cases	322		160		26		144		91	
By surgical cases	100		...		...		...		...	
By maternity cases	40		...		...		...		...	
Number of patient days during the year ...	168,918		58,486		9,558		52,450		33,266	
Number of days in the year during which the institution was open	365		365		365		365		365	
Number of patients discharged or died during the year	3,165		2,082		487		...		...	
Classification of cases—										
Observation and pulmonary ...	...		...		...		95.15%		59%	
Non-pulmonary	...		...		...		4.85%		41% †	
Number of operations excluding dental operations performed under a general anaesthetic	461		108		...		...		...	
Average percentage of bed cases during year ...	85.2%		67%		30%		69.33%		58%	

† Non. T.B. (Orthopaedic).—15%

1934

BRISTOL
PORT SANITARY AUTHORITY

ANNUAL REPORT

OF THE

PORT MEDICAL OFFICER OF HEALTH.

R. H. PARRY, M.D., M.R.C.P. Lond., D.P.H.

BRISTOL PORT SANITARY COMMITTEE.

Chairman

COUNCILLOR E. T. COZENS, J. P.

ALDERMAN J. E. JONES, J.P.
ALDERMAN H. J. MAGGS, J.P.
COUNCILLOR C. G. T. BENNETT
COUNCILLOR H. S. EVANS
COUNCILLOR J. OWEN
COUNCILLOR SIR LIONEL GOODENOUGH TAYLOR
COUNCILLOR T. JEFFERIS
COUNCILLOR V. J. ROBINSON

PORT SANITARY STAFF.

**Port Medical Officer of Health*

R. H. PARRY, M.D., M.R.C.P. Lond., D.P.H.

**Deputy Port Medical Officer*

A. G. MORISON, M.A., M.D., Ch.B., D.P.H.

**Assistant Port Medical Officers*

A. R. FORBES, M.B., Ch.B., D.P.H.
A. DICK, M.B., Ch.B., D.P.H.
R. A. READ, M.B., Ch.B., D.P.H.

**Chief Inspector,* J. A. ROBINSON, 1.2.

Inspectors

E. H. SCORRER, 1.2.
C. W. GOULD, 1.2.3.
R. R. TUCKER, 1.2.

Asistant Port Officers

T. E. HOWICK, 4.
C. A. SAMPSON

Rat Catchers

*C. H. RYMAN
*F. PEACOCK
*C. SCORRER
E. R. POOLE

1. Certificated Sanitary Inspector.
2. Certificated Meat and Food Inspector.
3. Master Mariners' Certificate.
4. Liverpool University Cert. San, Science.

* Also engaged in the city.

INSPECTION OF ALIENS

Supervising Medical Inspector, R. H. PARRY.

Medical Inspectors

A. G. MORISON
A. R. FORBES
A. DICK
R. A. READ

CONTENTS, 1934

BRISTOL PORT SANITARY AUTHORITY.

ANNUAL REPORT, 1934.

My Lord Mayor, Ladies and Gentlemen,

I have the honour to present to you a report upon the work of the Port Sanitary Authority during the year 1934.

During another year the officers of the department have carried out their duties successfully. In spite of the close contact which the port has with countries where acute infectious diseases such as cholera, plague, or smallpox are frequent, no cases of an acute infectious nature appeared in the city or district during the year. This is no mere matter of 'good fortune' but it has necessitated continuous vigilance on the part of the responsible officers night and day. Ships from 'infected' or suspicious ports have been carefully inspected on arrival at the port and kept under observation whilst in port. As mentioned in previous reports, the results may not be very outstanding on paper as they are mostly negative, but the preventive work done at this port is of the first importance not only to the port and city but also to the whole country.

Particular attention is directed to the following matters in the report, viz. :—

(1) The working of the arrangements under article 6 of the Port Sanitary Regulations 1933 for wireless communication between ships and the port medical officer, operative since 1st February, 1934. (p. 13).

(2) An interesting paper read in July 1934 at the Health Congress of the Royal Sanitary Institute by Mr. E. H. Scorrer, senior inspector at Avonmouth, on deratisation of ships (p. 18).

(3) Inspector C. W. Gould's experiment on the destruction of bed bugs in crews' quarters by direct application of steam (p. 24).

(4) Public Health (Imported Food) Amendment Regulations 1933. One cannot but be rather unfavourably impressed by the arrangements whereby it would appear to be the duty of the Port Sanitary Authority to inspect conditionally admissible meat although it carries official certificates. Surely if inspection be necessary nothing should be admissible but whole carcases or parts of a carcase so cut as to impart some information concerning the state of the live animal, so that the inspection may have some value. The present position is not satisfactory (p. 24).

(5) An interesting piece of research carried out by Drs. Morison and Stone upon lymphadenitis in lambs. It is possible that this condition in the past has been mistaken for caseous lymphadenitis (p. 25).

(6) Report on insect infestation of ships (p. 28).

(7) Public Health (Preservatives in Food, etc.) Regulations. The facilities offered by the preventive medicine department have greatly helped the port sanitary officers in carrying out their duties so as not to interfere with the trade of the port. In this respect the earlier the reports are submitted after the samples have been taken the less likely is there to be interference with trade. Reports upon samples taken for preservatives are obtained from the laboratory in 24 hours except in cases of an unusual character.

During the year under review, 1,012 ships arrived at Bristol ports from "foreign" countries and 6,248 from coastwise, making a total from "foreign" and coastwise of 7,260. Of these ships, 28 were from ports known to have been infected by plague. Your medical officers visited 241 ships altogether and in nearly all these examined the crews. The port sanitary inspectors boarded 2,346 ships.

The number of cases of sickness landed from vessels arriving at the port was 161, in addition 36 cases of infectious and other sickness were reported to have occurred on vessels during the voyage, but had been disposed of prior to arrival.

There was no case or suspected case of yellow fever, smallpox or typhus on board these vessels. Eleven cases were removed from ships to the isolation hospital for observation or treatment.

The medical inspectors of aliens inspected 100 aliens and subjected 16 of these to detailed examination. Three certificates of physical incapacitation were issued during the year.

The detection of rodent plague is one of the most important duties of the port sanitary authority. All ships from infected or suspicious ports were examined thoroughly for rat indications and wherever possible samples of rats were obtained for pathological examination for plague. In all 356 rats from these ships were examined during the year. For the purpose of sampling the rat population in the vicinity of the quays, 531 rats were examined pathologically giving a total of 887 examined during the year.

The number of certificates issued under article 27 of the International Sanitary Convention of 1926 was as follows :—

Deratisation	29
Deratisation exemption	117
Total	146

Finally, the best thanks of the department are due to the assistance given to us by H.M. customs officers, the officers of the port of Bristol docks authority, the haven master and the pilots. I desire also to bring to your notice the excellent service given to the port sanitary authority during the year by all the officers under the supervision of my deputy, Dr. A. G. Morison.

I am, my Lord Mayor, ladies and gentlemen,

Your obedient servant,

R. H. PARRY,
Port Medical Officer of Health.

REPORT ON THE WORK OF THE PORT SANITARY AUTHORITY

BY

A. G. Morison, M.A., M.D., D.P.H.,
Deputy Medical Officer of Health.

The Port of Bristol comprises the Avonmouth docks, the City docks, and the Portishead docks, which have a total water area of 188 acres, and a dock quayage of 37,220 feet. The Corporation of Bristol are the owners of the entire dock system, the administration of which is vested in a committee, the Port of Bristol Authority.

During 1934 the following vessels entered the docks :—

	Number.	*Tonnage.*
Foreign ...	1,012	2,479,381
Coastwise ...	6,248	872,771
Total ...	7,260	3,352,152

I.—Amount of Shipping entering the Port during the year 1934.

(Avonmouth, Portishead and Bristol Docks)

Table A.

		Number *	Tonnage *	Number inspected: By the medical officer of health	Number inspected: By the sanitary inspector	Number reported to be defective	Number of vessels on which defects were remedied	Number of vessels reported as having or having had during the voyage infectious disease on board
Foreign	Steamers	1,011	2,476,703	205	890	166	165	21
	†Motor ...			36	120	1	1	2
	Sailing ...	1	2,678	—	1	—	—	—
	Fishing	—	—	—	—	—	—	—
Total Foreign ...		1,012	2,479,381	241	1,011	167	166	23
Coastwise	Steamers	4,621	698,576	—	926	119	119	1
	†Motor ...			—	273	16	16	—
	Sailing ...	1,627	174,195	-	136	5	5	—
	Fishing	—	—	—	—	—	—	—
Total Coastwise ...		6,248	872,771	—	1,335	140	140	1
Total foreign and coastwise ...		7,260	3,352,152	241	2,346	307	306	24**

† Includes mechanically propelled vessels other than steamers.

* Figures supplied by Port Authority. The foreign tonnage includes vessels entering from a coastwise port to load for a foreign port.

** Excluding vessels having venereal disease on board.

II.—Character of Trade of Port.

Table B.

(*a*) *Passenger Traffic during* 1934.

No. of passengers		1st Class	2nd Class	3rd Class	Trans-migrants	Total
Inwards	Aliens	123	—	13	—	136
	British	2,256	—	—	—	2,256
Outwards	Aliens	107	—	—	—	107
	British	2,076	—	—	—	2,076

The foreign ports from which passengers principally arrived were :— Kingston (Jamaica), Trinidad, Barbados, Port Limon, Puerto, Santa Marta, Cristobal, and West African ports.

(b) Cargo Traffic.

PRINCIPAL IMPORTS

Commodities			Tons
Grain	—	—	837,822
Oilseeds	—	—	56,105
Feeding stuffs for animals	—	—	139,207
Cereal products for human consumption	—	—	24,598
Fruit :			
Bananas	Bunches	5,735,765	87,443
Oranges and lemons	Cases	300,593	13,776
Other green fruit	—	—	6,205
Canned	—	—	6,126
Dried	—	—	4,859
Metals and ores :			
Brass	—	—	1,055
Copper	—	—	20,582
Iron	—	—	16,466
Lead	—	—	6,436
Spelter	—	—	2,000
Pyrites	—	—	8,038
Zinc concentrates	—	—	46,077
Paper	—	—	40,965
Petroleum	—	—	624.863
Provisions :			
Bacon	—	—	377
Butter	—	—	10,284
Cheese	—	—	9,919
Lard	—	—	8,349
Frozen meat	—	—	10,425
Sugar :			
Refined	—	—	7,309
Unrefined	—	—	6,005
Glucose	—	—	883
Molasses	—	—	7,435
Tobacco	—	—	26,214
Wine	Pipes	5,580	3,349
,,	Dozens	3,960	99
Spirits	Pipes	105	63
,,	Dozens	40,200	804
Wood and timber	—	—	129,460
Wood pulp	—	—	79,221
All other goods	—	—	138,248
Total Foreign Imports	...	...	2,381,067

The storage capacity under the control of the port authority is over 250,000 tons, with a cold storage capacity of 500,000 cubic feet.

The chief imports are seen to be grain, cereal products, feeding stuffs, fruit, provisions, meat, sugar, tobacco, metals, ores, oil-seeds, paper, wood pulp, petroleum, wood and timber. About ten per cent. of the grain, twenty per cent. of the tobacco, and about thirty per cent. of the bananas imported into the United Kingdom enter by Bristol.

PRINCIPAL EXPORTS

Commodities	Tons
Chemicals :	
Saltcake	4,900
Other kinds	881
Clay	1,767
Coke	9,374
Earths	1,080
Iron	1,626
Paper	1,308
Strontia	3,829
Zinc Concentrates—roasted	3,198
All other goods	15,544
Total Foreign Exports	43,507

(c) *Foreign ports from which vessels arrive.*

AFRICA—	Accra, Apapa, Arzew, Alexandria, Bathurst, Beira, Bona, Cape Town, Casa Blanca, Dakar, Durban, Gambia, Lagos, Las Palmas, Mauritius, Mombasa, Mossell Bay, Oran, Port Natal, Port Said, Port Sudan, Santa Cruz, Sfax, Saltpond, Takoradi, Tanga, Winnebah, Zanzibar.
AMERICA—	
Canada - -	Campbellton, Carleston, Chemainus, Churchill, Halifax, Montreal, New Westminster, Port Alfred, Quebec, Rimouski, St. John, Sorel, Sydney, Three Rivers, Vancouver, Victoria.
Newfoundland -	Botwood, St. John's.
United States -	Baltimore, Baton Rouge, Baytown, Beaumont, Bellingham, Boston, Brunswick, Charleston, Everett, Galveston, Gulfport, Houston, Ingleside, Jacksonville, Longview, Los Angeles, Mobile, New Orleans, Newport News, New York, Norfolk, Olympia, Panama City, Pensacola, Philadelphia, Portland Ore, Port Neches, Sabrine, San Deigo, San Francisco, San Pedro, Savannah, Seattle Tacoma, Tampa, Texas City, Wilmington.
Mexico - -	Minatitlan, Puerto Mexico, Tampico, Tuxpan.
Central America and West Indies	Antigua, Aruba, Barrios, Cuba, Curacao, Grenada, Kingston, Limon, Port of Spain, Santa Marta, Trinidad.
South America	Antofagasta, Bahia Blanca, Buenos Ayres, Concepcion, Corrall, Iquique, La Plata, Necochea, Ramallo, Rosario, San Antonio, San Lorenzo, San Nicolas, Santa Fe, Talara, Tocopilla, Valparaiso, Villa Constitucion.
ASIA—	Abadan, Basra, Bassein, Balik Papan, Bombay, Calcutta, Coconada, Dairen, Haifa, Jaffa, Karachi, Kyrenia, Larnaca, Limasol, Masulipatum, Rangoon, Singapore, Smyrna, Tripoli.
AUSTRALIA—	Adelaide, Albany, Brisbane, Bunbury, Freemantle, Geelong, Geraldton, Hobart, Melbourne, Port Augusta, Port Broughton, Port Lincoln, Port Pirie, Port Victoria, Sydney, Thevenard, Wallaroo.
NEW ZEALAND—	Auckland, Bluff, Cairns, Christchurch, Dunedin, Gisborne, Invercargill, Lyttelton, Napier, New Plymouth, Oomaru, Port Chalmers, Timaru, Wanganui, Wellington,

EUROPE—

Russia, Northern	Archangel, Igarka, Keret, Kovda, Leningrad, Murmansk, Onega.
Russia, Southern	Batoum, Mariupol, Nicolaieff, Odessa, Theodosia, Touapse.
Norway - -	Drammen, Fredrikstad, Larvik, Oslo, Risor, Sarpsborg, Skien, Tofte, Trondhjem.
Sweden - -	Domsjo, Gamelby, Gefle, Gothenburg, Gumboda, Hallstanas, Hernosand, Kristinehamn, Mo., Norrkoping, Skoghall, Soderhamn, Stockholm, Sundsvall, Svartvik, Wallvik, Westervik.
Finland - -	Hango, Helsingfors, Kalajoki, Kirkonheime, Korvisto, Kotka, Makslahti, Rahja, Raumo, Trangsund, Viborg, Walhom.
Latvia - -	Riga.
Poland - -	Gdynia.
Germany -	Bremen, Elbing, Hamburg, Konigsberg, Stettin, Wismar.
Danzig - -	Danzig.
Holland - -	Amsterdam, Breskens, Delfzyl, Groningen, Rotterdam,
Belgium - -	Antwerp, Bruges, Ghent.
France - -	Bayonne, Bordeaux, Brest, Caen, Calais, Dieppe, Dunkirk, Le Harve, Lezadrieux, Marseilles, Nantes, Paimpol, Rouen, St. Malo, Treguir, Tonnay-Charante.
Portugal -	Faro, Lisbon, Oporto, Portimao, Setubal.
Spain - -	Aquilas, Alicante, Almeria, Aviles, Burriana, Cadiz, Carboneras, Cartagena, Castellon, Denia, Gandia, Huelva, Malaga,. Seville, Valencia.
Italy - -	Catania, Genoa, Giardini, Leghorn, Marina de Carrara, Messina, Milazzo, Palermo, Rezzio, Calabria, Riposto.
Greece - -	Argostoli, Catacola, Patras, Vostizza.
Turkey - -	Istanbul.
Roumania -	Braila, Constanza, Galatz, Ismail, Kilia, Reni.

Grain and feeding stuffs are imported from Canada, United States, South America, Australia, India, the Persian Gulf and Black Sea ports. Motor spirit and other petroleum products arrive from Mexico, West Indies, Trinidad, United States, Black Sea, Persia, and East Indies. Bristol is one of the chief ports in the Kingdom for the banana trade from West Indies and Central America. The general cargo trade between the port and Canada, United States and Europe is well maintained. The import trade from Australia and New Zealand consists of frozen produce, provisions and general goods.

III.—Source of Water Supply.

(*a*) *For the Port.*

(*b*) *For shipping.*

The water used in the port and by ships in the docks is supplied by the Bristol Water Works Company. Hydrants are provided on the quaysides.

Where called for, water tanks in all vessels were washed out, cleansed, and cement washed under the supervision of the port sanitary inspectors.

(*c*) *No. of water boats and their sanitary condition.*

There are no water boats in use at Avonmouth or Portishead.

One water boat is in use at Bristol docks. This vessel is inspected periodically by the port sanitary inspector, and is cleansed and cement washed when necessary.

IV.—Port Sanitary Regulations, 1933.

(1) *Arrangements for dealing with declarations of health.*

(2) *Boarding of vessels on arrival.*

(3) *Notification to the authority of inward vessels requiring special attention.*

These regulations came into operation on the 1st May, 1933. The scheme of operation at the port of Bristol was described in detail in the annual report for 1933. The smooth working of the regulations has continued throughout 1934.

The medical officer of health is required by these regulations to issue periodically a list of infected, suspected or suspicious ports and seaboards. Such lists have been issued monthly, this monthly list being supplemented at any time as information received makes necessary. Copies are sent to docks officials, customs officers, port sanitary staff, the Board of Trade, and the pilotage authority. The following is a specimen list :

Bristol Port Sanitary Authority.

LIST OF PORTS AND SEABOARDS infected with or suspicious as regards PLAGUE (human or rodent), CHOLERA, YELLOW FEVER, TYPHUS FEVER or SMALLPOX issued by the port medical officer of Bristol in accordance with the Port Sanitary Regulations, 1933 :

1. The following remain on this list until further notice—

Ports in Asia, including Japan, China, India, Ceylon, Malay Peninsula and Philippine Islands, Persia and Arabia.

Ports in Africa, including Madagascar.

Ports on Red Sea and Black Sea.

Ports on Mediterranean in countries of Russia, Turkey, Roumania and Greece.

South and *Central American Ports*, including Mexico.

Ports of Finland, and of *Gulf of Finland*,

2. The following Ports, not included in the above, are to be considered infected or suspicious for ONE MONTH from this date.

Portugal—Lisbon and Oporto.

R. H. PARRY, M.D., D.P.H.,
Port Medical Officer of Health.

Complete co-operation exists between H.M. customs officers and the port sanitary staff and we are especially indebted to the collector and his staff for their help in all our duties.

On and from 1st February, 1934, article 6 of the Port Sanitary Regulations, 1933, became applicable to Bristol. The meaning of this is as follows : If the answer to any of the six questions on page 1 of the declaration of health is "yes" ; if there be any person on board with symptoms of infectious disease (other than tuberculosis) ; or if there are any circumstances requiring the attention of the medical officer, the master must send a wireless message to the port medical officer addressed " Portelth, Bristol," or through the ship's agents (if approved) between four and twelve hours of time of arrival. The expected time of arrival should be given, and if code is used, it must conform with the medical section of vol. II of the International Code of Signals (British edition, p. 229). Prior to the 1st February, 1934, a notice that article 6 was to become operative for the port of Bristol was given to all owners and shipping agents known to use the port. A copy of the article, along with a copy of the second schedule therein referred to, was also sent to them and they were asked to make application that messages might be sent to the port medical officer through them, if they so desired. It was pointed out that it would be necessary for the port sanitary authority to be satisfied that arrangements would be made for the prompt transmission of messages received by owners or agents to the port medical officer any time of the day or night. Two firms of shipping agents duly made a request to be approved and were accepted. The replies of the other firms, although not asking for approval, indicated a much appreciated desire to co-operate with the port sanitary department by handing on any information to us which they may receive at any time. Up to 31st December, 1934, nine messages were received direct from ships. A noteworthy fact in connection with wireless messages is that masters of vessels often send us wireless information that their ship is healthy. Such messages are not strictly required by the regulations, but are most helpful to us and we always appreciate receiving them.

We are fortunate in our co-operation with the haven master and his pilots. Pilotage is compulsory except for coastwise trading vessels not carrying passengers. A pilot boarding a foreign-going or home trade vessel inward bound, in or anywhere to the westward of Walton Bay, hands to the master a copy of a leaflet printed in English, Spanish and Greek, as follows :—

" *Bristol Port Sanitary Authority.*

" If it is necessary for masters of vessels to transmit visual signals to the port medical officer of health in

connection with the instructions on the back of the declaration of health form, pilots of inward bound vessels will assist the master in doing so through Walton Bay signalling station."

All pilots have in their possession copies of the declaration of health form, and their help is much appreciated, for it expedites the dealing of vessels by the port sanitary officers.

Further, local ship owners and agents notify the port medical officer of health of expected arrivals and masters of locally-owned vessels report by wireless to the owners the time they expect to arrive in port. This information is passed to the department and helps us in our duties.

(4) *Mooring Stations.*

These remain as detailed in my report for 1933.

(5) *Particulars of any standing exemptions from the provisions of article* 14.

No standing exemption from the provisions of article 14 has been granted. As was mentioned in the annual report of last year, it is preferred that any unusual circumstance be reported to the medical officer at once and then a decision made as to the appropriate action. With the full co-operation and understanding of the officers of H.M. customs, the scheme of working of the regulations continues to function very satisfactorily and there has been no delay to any ships, nor are we aware of the least inconvenience to personnel; so we do not intend recommending in the meantime any such standing exemptions.

(6) *Experience of working article* 16.

Last year we referred to the usefulness of this article of the regulations. Throughout 1934 it has continued to be appreciated, helping us considerably in prompt clearance of ships entering the port.

(7) *What, if any, arrangements have been made for*

(*a*) *Premises and waiting rooms for medical examination.*

(*b*) *Cleansing and disinfection of ships, persons and clothing and other articles.*

(*c*) *Premises for the temporary accommodation of persons for whom such accommodation is required for the purposes of the regulations.*

(*d*) *Hospital accommodation available for plague, cholera, yellow fever, smallpox, and other infectious disease.*

(*e*) *Ambulance transport.*

(*f*) *Supervision of contacts.*

These matters were fully dealt with in the report for 1933.

(8) and (9) *Arrangements for (a) bacteriological or pathological examination of rats for plague and (b) for other similar examinations.*

All bacteriological and pathological examinations required by the Corporation either as the city authority or the port sanitary authority are carried out at the department of preventive medicine of the University at Canynge Hall.

During the year under review 887 rats were examined for plague 356 being from the ships at the ports and 531 from the sheds and quays at the docks. The ratio of rats examined during the year was 32.1 per cent. from ships and 14.5 per cent. from sheds and quays.

(10) *Arrangements for the diagnosis and treatment of venereal disease amongst sailors under international arrangements.*

(*a*) Enquiries are made by the medical officers and port sanitary inspectors of the responsible officers on all ships for the history of cases that may have been reported during the voyage.

(*b*) Examination of the crews of ships by a port medical officer results in the detection of a number of venereal cases not reported by the masters as above. Leaflets stating the times of attendance at the Health Committee's venereal disease clinic at the Bristol Royal Infirmary are given to the masters of vessels and to the infected. During the year this leaflet was redrafted thus :—

City and Port of Bristol.

VENEREAL DISEASES.—Arrangements have been made in Bristol for free treatment for persons suffering from these diseases under conditions of strict secrecy at the Bristol Royal Infirmary. Patients seen daily from 8 a.m. to 10 p.m., except Sundays when urgent cases will be seen between 10 a.m. and 12 noon.

How to get there—from Bristol—see plan on back hereof (omitted) ; from Avonmouth—No. 28 'bus passes the door.

If your course of treatment is not completed when you leave any Port you should continue it at your next Port of call, and the address of the treatment centre in any port will be supplied by the doctor at the treatment centre if you ask for it.

Issued by the Public Health Department,

40, *Prince Street, Bristol,* 1.

The following particulars relate to seamen treated at the municipal clinic during the year :—

1933		1934	Diagnosis.			
			Syph.	Soft Sore	Gon.	Non-Ven.
	Cases					
194	Total	212	78	3	69	62
165	New cases	194	64	3	65	62
	Attendances					
726	Total	707	335	9	242	121
452	New cases	497	168	9	199	121
	Inpatients					
6	Total	6	3	1	2	—
6	New cases	6	3	1	2	—
	Inpatient Days—					
156	Total	151	79	52	20	—
156	New cases	151	79	52	20	—

Table C.

Cases of infectious sickness landed* from vessels.

Disease	No. of cases during 1934		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Infectious diseases, including :				
Malaria	1	4	5	6·2
Diphtheria	—	1	1	·6
Influenza	—	4	4	6·8
Enteric fever	—	1	1	1·0
Measles	1	—	1	·2
Pulmonary tuberculosis... ...	3	3	6	3·6
Venereal diseases	4	33	29	30·0
Climatic bubo	—	1	1	·2
Chicken pox	—	4	1	.2
Pneumonia	—	1	1	.2

Other diseases not included in Table C above landed from vessels.*

Disease	No. of cases during 1934		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Rheumatism	—	6	6	2·8
Anaemia	—	1	1	·2
Diseases of nervous system ...	2	9	10	6·4
,, ,, circulatory system ...	—	4	4	2·6
,, ,, respiratory system ...	1	10	9	8·0
,, ,, digestive system ...	1	18	17	18·8
,, ,, genito-urinary system...	1	1	2	1·6
,, ,, skin and cellular tissue	—	14	11	10·2
Diseases of bone and organs of locomotion	—	2	2	2·0
Traumatism	—	10	10	11·8
Ill-defined diseases	—	23	17	6·6

* Includes only cases requiring medical attention, but all were not removed from ships to hospital.

Table D.

Cases of infectious sickness on vessels during voyage but disposed of prior to arrival.

Disease	No. of cases during 1934		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Infectious diseases, including :				
Enteric fever	—	1	1	1·4
Dysentery	—	1	1	·4
Malaria	—	1	1	5·4
Chickenpox	—	4	1	1·2
Venereal disease	—	2	2	3.4

Other diseases not included in Table D above on vessels during voyage but disposed of prior to arrival.

Disease	No. of cases during 1934		No. of vessels concerned	Average no. of cases for previous 5 years
	Passengers	Crew		
Diseases of nervous system ...	—	1	1	·6
,, ,, circulatory system ...	—	2	2	2·4
,, ,, respiratory system ...	—	4	4	3.0
,, ,, digestive system ...	—	5	5	5·4
,, ,, skin and cellular tissue	—	1	1	1·4
Traumatism	—	4	3	3·2
Ill-defined diseases	—	10	10	3·4

(*a*) *Diphtheria on M.V. "Gustaf E. Reuter."*

The motor vessel "Gustaf E. Reuter" was inspected on arrival at Avonmouth docks on the 28th February. One of the crew was suffering from a sore throat diagnosed as diphtheria (swab positive) and was removed to Ham Green hospital, appropriate disinfection being carried out. The rest of the crew were quite well and medical examination revealed nothing of a suspicious nature in any member. The ship desired to leave on the 2nd March for Philadelphia expecting to be at sea some 15 days. Naturally the captain was anxious as to the welfare of his crew, and the following action was taken. Immediately before sailing each member was carefully examined, not one suspicious sign being revealed. The captain was advised of the possibility of further cases of diphtheria, but that the possibility was perhaps unlikely because it appeared that the case of diphtheria we had found had been ill, say, some 15 days already and there had been no spread of the infection. The clinical appearance of diphtheria of the throat was explained to the captain and he was advised that if any of his crew became ill with suspicious sore throat it would be well to consider asking medical advice by wireless from neighbouring ships. He was also advised to supply himself with eight phials, each of 8,000 units of antitoxin, and as to their appropriate storage in a cool, dry, dark place.

(*b*) *Climatic bubo on M.V. "Sliedrecht."*

The motor vessel "Sliedrecht" arrived at Avonmouth docks on the 2nd December from Batoum. Medical examination of the crew brought to light that the second cook was suffering from inflammation with pus formation of the left groin. He was immediately removed to hospital for observation, appropriate disinfection was carried out, and a search for rat indications made on board. It is worthy of note that in spite of this ship being an oil tanker, slight rat indications were revealed in a storeroom. The deratisation certificate was invalid; fumigation with cyanide of the after peak superstructure was called for. One dead rat was afterwards recovered which on examination revealed no evidence of plague infection. After full clinical examination in hospital, the opinion was formed that the case was one of climatic bubo. Full bacteriological examination embracing culture and animal experiment was undertaken and proved negative to the presence of *bacillus pestis*. A full account of the occurrence was forwarded to the medical officer of health of the next port of call of the ship.

V.—Measures against Rodents.

At the Health Congress of the Royal Sanitary Institute in Bristol in July, Mr. E. H. Scorrer, port sanitary inspector, Avonmouth docks, read a most interesting and exhaustive paper on deratisation of ships. Mr. Scorrer referred in a historical survey to the introduction of plague to Bristol in 1919. A vessel after discharging at Alexandria sailed for Canada to load grain for England. During the vessel's stay at Alexandria, a stray cat came on board, took up its quarters in the poop and proved to be a good rat-catcher. During the vessel's stay in Canada two men who lived in the poop, were removed to hospital suffering from "fever."

The cat afterwards took up its quarters amidships with the officers and on the vessel's arrival at Avonmouth, two of the officers were found to be suffering from bubonic plague. Appropriate fumigation of the vessel, of course, was undertaken and some 234 dead rats collected. Three of these, together with the cat, were found to be suffering from plague. It seems likely that the cat brought the infection on the vessel at Alexandria, infected two men in the poop on the way to Canada and carried the infection with it amidships on the way to Avonmouth and that its contact with the rat population infected the rats. Mr. Scorrer dealt with the methods of war by the sanitary authority against rats, very truly stating that the only insurance for the human population against infection by the dreaded plague germs is a constant fight against the rat which harbours the flea which is responsible for the spread of *bacillus pestis.*

(1) *Steps taken for detection of rodent plague* (*a*) *in ships in the port,* (*b*) *on quays, wharves, warehouses, etc.*

Every ship from foreign is boarded immediately on arrival by a port sanitary inspector and also by a port medical officer, if from a plague-infected or suspicious port. These officers satisfy themselves as to the condition of the ships regarding rats and inspect the last certificate of deratisation or exemption. The holds are examined immediately they are opened.

During a ship's stay in the port and while the cargo is being discharged she is continuously observed for signs of rats. The port sanitary rat officers set traps and make every effort to obtain samples of rats for pathological examination.

The presence of dead rats is always treated as urgent. Immediate pathological examination is made and appropriate action taken according to circumstances.

Sampling of the rat population of the warehouses and sheds is done constantly and the presence of rodent plague excluded by pathological examination.

A re-arrangement of the responsibilities as to rat repression at the Avonmouth and Portishead docks was made during the year. After full consultation between the officers of the Docks Committee and the Port Sanitary Committee, it seemed that a better distribution would be for the officers of the Docks Committee to undertake duties on the quays, wharves and warehouses, allowing the port sanitary staff to concentrate more particularly on the ships. The responsible committees accepted this recommendation and appropriate financial adjustment was made, the new arrangement coming into operation on the 1st February, 1934.

Tables E and F show the work done in this connection at the port during 1934.

(2) *Measures taken to prevent the passage of rats between ships and the shore.*

These remain as described in last year's report.

(3) *Methods of deratisation of* :

(*a*) *Ships.*

According to the suggestion of the Ministry of Health, the following standards for empty ships as recommended by the Office International D'Hygiene Publique are adhered to in our work of

deratisation of ships; for fumigation with hydrogen cyanide two ounces per thousand cubic feet of space to be fumigated with a minimum exposure of two hours, and for sulphur, burning sulphur in open containers three pounds per thousand cubic feet of space to be fumigated with a minimum exposure of six hours. To ensure complete combustion of the sulphur, specially made flattened trays are used, these standing in larger trays containing water.

Cotton waste well soaked in wood alcohol reaches through the sulphur to the bottom of the tray.

During 1934, 29 deratisation and 112 deratisation exemption certificates were issued. Deratisation was carried out by fumigation in every instance, 6 of the ships being done by sulphur and 23 by cyanide. We consider that trapping may give useful information as regards the rat population of a ship, but that it is not an effective method of deratisation, if deratisation be called for.

The Port Sanitary Regulations, sections 19, 20 and 21 define the duties of a port medical officer concerning deratisation certificates. They are as follows :—

19. (1). On the arrival of a ship from a foreign port at an approved port, whether or not the first port of call in England or Wales, the medical officer shall, unless a valid deratisation certificate or valid deratisation exemption certificate is produced in respect of the ship, take such steps as he may consider necessary to ascertain whether the ship is maintained in such a condition that the number of rats on board is kept down to the minimum.

(2). If, after the ship has been inspected, the medical officer is satisfied that the ship is free from rats or is maintained in such a condition that the number of rats on board is kept down to the minimum, he shall sign and issue a deratisation exemption certificate.

(3). If, after the ship has been inspected, the medical officer is of opinion that the ship is not maintained in such a condition that the number of rats on board is kept down to the minimum, he shall require the ship to be deratised in such manner as may be specified or approved by him, and the master shall forthwith make arrangements for the deratisation of the ship to be carried out to the satisfaction of the medical officer.

(4). After the deratisation has been completed to his satisfaction, the medical officer shall sign and issue a deratisation certificate.

20. Upon receipt of an application in writing from the owner of any ship in an approved port, or from the master of the ship acting for and on behalf of the owner, for a deratisation exemption certificate or a deratisation certificate in respect of the ship, the medical officer shall take such steps as he may consider necessary to satisfy himself that the ship is maintained in such a condition that the number of rats on board is kept down to the minimum, or give directions for the deratisation of the ship, as the case may require, and, on being satisfied as to the condition

of the ship or that the deratisation of the ship has been properly carried out, he shall issue the appropriate certificate.

21. (1). All deratisation and deratisation exemption certificates shall be in such form as the Minister may from time to time direct.

(2). A copy of every such certificate shall be retained in the office of the sanitary authority, and a copy shall be forwarded to the minister unless he otherwise directs.

(3). The owner or the master of the ship shall pay to to the sanitary authority such fee for the inspection of the ship and for the issue of a certificate as the minister may from time to time determine.

It is important, further, to realise the international significance of these sections, for they are embraced in the Port Sanitary Regulations not only because of their intrinsic value but also by reason of the obligations Great Britain has taken upon herself by becoming a signatory to the International Sanitary Convention, 1926. I mention this because I have found myself having on occasion to refuse requests from masters or their agents to allow a ship to proceed from the port of Bristol to another port without complying with these sections.

(*b*) *Premises in the vicinity of the docks and quays.*

Trapping and laying down of poisoned baits continue constantly.

(4) *Measures taken for the detection of rat prevalence* :

(*a*) *In ships.*

Under " steps taken for detection of rodent plague " the method of dealing with ships from foreign is discussed. The port sanitary inspectors board all inward vessels and examine them for rat indications. This is part of the routine duties of the port inspectors. The rat officers also search ships and set traps during the stay in port, while discharge of cargo is proceeding.

(*b*) *On shore.*

Routine inspection of all sheds and warehouses in the vicinity of the docks is carried out by the Docks Committee staff. There is full consultation and co-operation between this staff and that of the Port Sanitary Authority. Traps and poisoned baits are laid wherever and whenever indications are found of the existence of rats.

(5) *Rat-proofing* :

(*a*) and (*b*) *ii. Docks, wharves, warehouses, etc.*

As stated in previous reports many of the sheds and warehouses on the quay side have been built or re-built during the last few years and may be considered to be rat-proof. Representation is made to the docks authority from time to time when opportunity occurs concerning appropriate rat-proofing.

(*b*) *i. In ships.*

When ships are examined for indications of rats for the purpose of issuing a deratisation or deratisation exemption certificate, much attention is paid to the question of harbourage. Before a certificate is issued the master of the ship has to remove the harbourage to the satisfaction of the port medical officer of health,

Rats destroyed in 1934.

Table E. (1) *On Vessels.*

Number of Rats	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total in Year
Black	52	124	24	438	52	33	89	102	36	94	55	8	1,107
Brown	—	—	—	—	2	—	—	—	—	—	—	—	2
[Mice	—	—	—	—	—	—	—	—	—	—	—	6	6
Species not recorded	—	—	—	—	—	—	—	—	—	—	—	—	—
Examined	26	28	20	53	28	18	4	39	36	56	40	8	356
Infected with plague	—	—	—	—	—	—	—	—	—	—	—	—	—

Table F. (2) *In docks, quays, wharves and warehouses.*

Number of Rats	Jan.	Feb.	Mar.	April	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Total in Year
Black	170	180	117	175	182	143	153	108	119	130	99	79	1,655
Brown	117	113	140	161	205	141	167	195	179	193	210	169	1,990
[Mice	37	57	57	80	—	94	191	149	98	130	87	88	1,068
Species not recorded	—	—	—	—	—	—	—	—	—	—	—	—	—
Examined	48	27	28	34	41	51	26	67	55	49	64	41	531
Infected with plague	—	—	—	—	—	—	—	—	—	—	—	—	—

Table G.

Measures of rat destruction on plague "infected" or "suspected" vessels or vessels from plague infected ports arriving in the Port during the year.

Total number of such vessels arriving.	Number of such vessels fumigated by SO_2	Number of rats killed.	Number of such vessels fumigated by HCN.	Number of rats killed.	Number of such vessels on which trapping, poisoning, etc., were employed.	Number of rats killed.	Number of such vessels on which measures of rat destruction were not carried out.
1.	2.	3.	4.	5.	6.	7.	8.
28	—	—	—	—	21	28	7*

* These ships were all examined for rat indications, but no measures were taken, either because there was no evidence of rats, or because of very short stay in port.

Table H.

Deratisation certificates and deratisation exemption certificates issued during the year.

Net Tonnage.	No. of ships.	No. of deratisation certificates issued.					No. of deratisation exemption certificates issued.	Total certificates issued.
		After fumigation with			After trapping, poisoning, etc.	Total.		
		H.C.N.	Sulphur	H.C.N. and Sulphur.				
1.	2.	3.	4.	5.	6.	7.	8.	9.
Ships up to 300 tons	26	—	—	—	—	—	26	26
,, from 301 tons to 1,000 tons	23	3	3	—	—	6	17	23
,, from 1,001 ,, 3,000 ,,	42	14	3	—	—	17	25	42
,, from 3,001 ,, 10,000 ,,	55	6	—	—	—	6	49	55
,, over 10,000 ,, ...	—	—	—	—	—	—	—	—
TOTALS ...	146	23	6	—	—	29	117	146

VI.—Hygiene of crews' spaces.

Table J.—Classification of nuisances.

Nationality of vessel.	Number inspected during the year.	Defects of original construction.	Structural defects through wear and tear	Dirt, vermin and other conditions prejudicial to health.
British ...	1,884	3	87	237
Other nations	462	—	21	60
Totals ...	2,346	3	108	297

Mr. C. W. Gould, port sanitary inspector, City docks, has been conducting a very interesting experiment on the destruction of bed bugs in crews' quarters by the direct application of steam. In vessels where the compartments are heated by steam radiators, the feed pipe to the radiator is disconnected and a 12 feet length of $\frac{1}{2}$" hose with pinhole nozzle is attached. Full pressure of steam is then directed on all seams of wood and ironwork. Bunks are dismantled and similarly treated. The experiment has been carried out on a vessel which is a regular trader with the port and repeated inspections have verified the efficacy of steam in destroying vermin and their eggs. It is suggested that in vessels not so heated by steam a flexible hose could be attached to the nearest drain cock of a winch steam pipe. So far the following advantages may be claimed for the procedure—it is quick, cheap, does not destroy or discolour woodwork and can be applied without any serious disorganisation on board.

VII.—Food Inspection.

(1) (*a*) *Public Health* (*Imported Food*) *Regulations*, 1925.

Public Health (*Imported Food*) *Amendment Regulations*, 1933

Resort to legal proceedings was not necessary during the year.

The Public Health (Imported Food) Amendment Regulations, 1933, had for their principal purpose the extension of the then existing scheme of certification so that it was made applicable to the edible parts of cattle, sheep and goats in the same way as it had previously been applicable to the edible parts of pigs. The regulations made, for example, the severed parts of the carcase of an animal only conditionally admissible, the proviso being that they be accompanied by an official certificate. Further an "official certificate" is defined to mean "a certificate, label, mark, stamp or other voucher which is affixed to oversea meat or to a package containing such meat by a competent authority in the country or origin and is for the time being recognised by the minister as evidence that the meat to which it relates has been derived from an animal which was free from disease at the time of slaughter and has been dressed or prepared and packed with all necessary precautions for the prevention of danger to public health."

Early in the year there arrived at Avonmouth 50 sacks of frozen pigs' legs which on examination were found to have no official certificate attached. The port sanitary department therefore were unable to release the sacks. The importer later submitted a certificate which he had received by separate invoice quite clearly relating to this consignment of pork legs, but which had never been actually affixed to them. There being no doubt as to the interpretation of the circumstances before us we immediately released the pork legs. The same set of circumstances, however, was repeated within a few weeks. Again, in a short time the importer was able to submit to us a certificate which he had had under separate cover referring to the consignment and being in a form quite clearly indicating satisfactory veterinary inspection at the time of slaughter, etc. We pointed out to the importers our difficulty in releasing meat with no official certificate affixed and advised them to take up the matter with their trading principals. This was done and we have had no further case of meat being unaccompanied by these official certificates.

Caseous lymphadenitis.

The importations of sheep and lambs at Bristol have always been relatively free from this disease, no doubt because of their being practically only from Australia and New Zealand ; Australian consignments generally showing evidence of detailed glandular examination prior to exportation and New Zealand consignments having always been very free from the infection. In 1933 there was a slight increase in the number of carcases condemned, 3 lambs and 11 sheep having been found to be affected. Some of the carcases appeared less affected than others ; the condition being taken to be the beginning of caseous lymphadenitis.

Quite suddenly in May 1934 a consignment from New Zealand revealed a considerable number of these early cases. The occurrence was so unusual that full control by laboratory examination was undertaken. This was carried out at the department of preventive medicine, under the direction of Professor I. Walker Hall. The findings have proved to be most interesting and are being co-related in a paper to be published soon by Dr. D. M. Stone of the department of preventive medicine and Dr. A. G. Morison.

It has been revealed that the cases previously looked upon as this early stage of caseous lymphadenitis are in fact quite another lymphadenitis, non-caseous in character. The condition is equally a generalised infection of the carcase and renders it unfit for consumption. In all cases Dr. Stone has isolated a germ of the group, streptococcus. Further research requires to be made, however, before the opinion can be given that this streptococcus in fact is the cause of the condition.

The glands most obviously affected are the prescapular and inguinal. They are generally very definitely enlarged, firm, discrete, not adherent to surrounding structures, and on section present a distinct greenish, gelatinous appearance. On scraping the cut surface, a thinnish exudate is obtained, the surface showing a honeycomb appearance. On complete thawing, affected areas have become like thick green pus.

It may be of some significance in the pathogenesis of this condition that we have found the infection in lambs, in 1933—3 lambs and in 1934—9 lambs. True caseous lymphadenitis is seldom met with in lambs. Our figures, however, are still small and further observations on the subject will be made.

Quantity of food imported and dealt with :—

Fresh, frozen or canned meat, etc.		
Frozen beef	18,929	qrs.
,, mutton and lamb	497,687	carcases.
,, pork	19,453	carcases.
,, ,, ...	1,454	sides
,, pork legs	431	bags
,, offal	2,215	packages.
,, rabbits	500	cases
Cured or salted beef and pork ...	17	tons
Bacon and hams	377	tons
Canned meat	519	tons
Canned fish	812	tons
Fresh, dried and canned fruit, etc.		
Bananas	87,443	tons
Green fruit	19,981	tons
Dried fruit	4,859	tons
Vegetables—raw	3,532	tons
canned	630	tons
Vegetables in brine	645	tons
Canned fruit	6,126	tons
Other foods :		
Butter, cheese and lard	28,552	tons
Grain	837,822	tons
Cereal products for human consumption	24,598	tons
Feeding stuffs for animals	139,207	tons

Unsound food destroyed or otherwise dealt with so as not to be used for human food.

		Tons.	cwts.	qrs.	lbs.
Fresh or frozen meat, etc.					
Beef		—	3	—	17
Mutton and lamb		4	12	2	19
Pork		—	7	—	21
Canned goods.	Tins				
Apples	48	—	2	2	24
Apricots	1,088	—	12	—	24
Apricot pulp	13	—	1	1	15
Beef	206	—	1	3	20
Brisket of beef	4	—	—		24
Bilberries	1	—	—		6
Cherries	216	—	2	2	21
Fruit Salad	24	—	—	1	25
Grape fruit	33	—	—	1	3
Ham	1	—	—	—	16
Loganberries	11	—	—	—	22½
Milk (condensed)	15	—	—	—	6
Milk (evaporated	3	—	—	—	3
Nectarines	2	—	—	—	3
Oranges (mandarins)	122	—	—	3	8
Oranges (tangerines)	266	—	1	3	4
Peaches	112	—	3	—	9
Pears	167	—	3	1	14
Pineapples	293	—	4	—	—
Pilchards	12	—	—	—	12
Salmon	166	—	—	3	23
Tomatoes	66	—	—	2	22½
	2,869				
Fruit and vegetables.					
Apples		3	3	—	—
Coconut (desiccated)		—	15	1	—
Currants		—	1	3	—
Grape		1	9	2	12
Grape fruit		1	15	1	—
Lemons		1	8	—	—
Lettuce		—	1	2	—
Melons		4	8	—	—
Oranges		—	15	—	—
Parsnips		1	17	—	—
Potatoes		1	5	—	—
Prunes		—	—	1	—
Raisins		—	1	1	3
Tomatoes		—	—	1	22
Other foods.					
Barley		22	18	—	12
Butter		—	1	2	—
Cheese		—	2	—	16
Cocoa beans		4	2	—	—
Flour		6	5	3	2
Lard		1	18	—	—
Lard compound		—	1	—	—
Maize		13	3	2	12
Oats		2	18	2	—
Rice		7	12	—	—
Rice flour		—	8	2	—
Sugar		—	2	—	—
Tapioca		—	1	3	—
Wheat		141	5	1	—
		225	1	2	21

Insect infestation on ships.

A steamship arrived at the City docks on the 9th October, 1934, from Spain with a cargo of fruit, principally grapes in barrels. On the hatches being opened the holds were found to be infested with many silver-brown-like insects. Some concern was expressed by the importers of the fruit and the deputy medical officer of health forthwith visited and investigated the matter. The infestation was obvious; these insects were present in their hundreds. Several of the barrels were opened but we were unable to find any evidence that the insects had been soiling or otherwise damaging the fruit; they had contented themselves, evidently, with remaining outside of the barrels. In the same way, too, it was found that they had done no damage to boxes of almonds, which formed part of the cargo. It was therefore considered that there was no reason to think that the cargo of fruit had been rendered unfit and permission for delivery was granted to the various merchants on condition that each barrel be previously brushed clean to the satisfaction of the port sanitary officers.

A sample of the insects was taken to the department of preventive medicine where they were identified as 'silverfish' of the order *Thysanura*. These insects are more common with cargo which consists mainly of dried carbohydrates. The inspection of the holds had revealed the previous cargo of this ship to be ground nuts loaded on the west coast of Africa.

A close watch was kept on the dock shed for some days in case of any spread of infestation. There were no untoward happenings for the insects all died in a few days, evidently because of cold or starvation.

	Cattle.	Pigs.
Total no. of animals which were dead on arrival ...	—	1
No. slaughtered at the lairs on arrival owing to injuries	6	—

(*b*) *Public Health* (*Imported Milk*) *Regulations*, 1926.

No milk (other than condensed, evaporated or dried) was imported during the year.

(*c*) *Public Health* (*Preservatives, etc., in Food*) *Regulations*, 1925 *to* 1927.

The following samples were submitted to the public analyst during the year and examined by him for the presence of preservatives.

Almonds	1
Apple juice (cider)	1
Apricots, dried	4
Asparagus, canned	1
Butter	1
Blackcurrant pulp	7
Bacon	1
Cherries in brine	2
Cherries in syrup	1
Currants	2
Dried fruit salad	3
Glucose	1
Grape fruit, canned	1
Lard	1
Loganberries, canned	1
Marshmallow cream	1
Muscatels	3
Milk, evaporated	1
Milk, condensed skimmed ...	5
Milk (skimmed) powder ...	1
Peas, canned	1
Prunes	1
Raisins	22
Strawberry pulp	1
Sweet corn	2
Salmon, canned	3
Sultanas	3
Sugar	1
Tomatoes, canned	1
Tomato catsup...	1
Tomato puree	1
Tangerine oranges, canned ...	1
Tuna fish, canned	1
Walnuts, shelled	1
	79

In no case did articles examined contain preservative in excess of amount allowed by the regulations.

The number of samples found to contain preservative in excess of the regulations in previous years is according to the following table :

1929	1930	1931	1932	1933
12	7	9	7	6

In the report for 1931 we wrote as follows :—

> " One hesitates in most cases to condemn by reason of the imported food regulations as being diseased, unsound, unwholesome, or unfit for human consumption, articles offending only because of containing an excess of preservative, for example, an excess of sulphur dioxide in raisins, sultanas or black currant pulp.
>
> Such importation, of course, is prohibited by the preservative in food regulations, and the importation may be dealt with accordingly, but in practice, we are confronted with the following position. Importers on the excess being pointed out to them, almost invaribly indicate their intention of re-exporting the offending article. We are also informed that it is the practice of the trade to import goods under a ten days' guarantee that they comply with the regulations maintaining in England as to the presence of preservatives. It would seem therefore that the trade is endeavouring to protect itself from importing articles which offend the preservatives in food regulations, and its willingness to re-export when facts are revealed to them seems to negative any desirability to proceed to prosecution."

Consultations with the Bristol importers have taken place from time to time and have only still further satisfied us of the genuine endeavour of the importers to see that the imports comply with the regulations.

We understand that the matter has been taken up very seriously by the trade and that now there is a laboratory in Spain where raisins are tested and the amount of sulphur dioxide controlled before exportation. It must be gratifying to the importers, therefore, that we can report that during 1934 we have not found any infringement of the regulations as regards the presence of preservatives, in our samplings at this port of entry

(2) *Shellfish.*

There are no shellfish beds or laying within the jurisdiction of the Bristol Port Sanitary Authority.

(3) (*a*) and (*b*) *Samples of food examined by bacteriologist and analyst.*

Article.	Examination for	Result.
Asparagus, canned.	Metals	None present. Tin (Sn) traces. Copper (Cu), traces.
Butter ...	Presence of contamination	Contaminated with brine and rusty material.
Coconut, dessicated. ...	Water damage	Evidence of damage by water.
Currants ...	Water damage	Strong fermenting smell, evidence of damage by water, probably sea water.
Cherries, canned ...	Metals	Tin (Sn) .01%
do. ...	,,	,, ,, .011%
do. ...	,,	,, ,, .014%
Corn, canned ...	Metals	None present.
Dates	Water damage	Evidence of water damage.
do.	,,	None present.
Flour	Soundness	Genuine.
do.	Presence of contamination	Fly-infested ; evidence of cocoon and maggot.
do.	Water damage	Very moist sample of flour containing about 3 times the normal amount of moisture (32.6%) ; presence of moulds demonstrated. No evidence of sea-water or rusty material, and the presence of urine is not proved.
Lamb, frozen...	Presence of contamination	Evidence of contamination by rusty material.
do. ...	,,	Evidence of contamination by brine and sawdust.
do. ...	,,	Evidence of contamination by brine.
Ox tongue ...	Metals	Lead (Pb) .0002%.
Salt	Soundness	Genuine
Sardines ...	Metals	Lead (Pb) .0005%
do. ...	,,	,, .0008%
do. ...	,,	,, .00015%
do. ...	,,	,, .0005%
do. ...	,,	,, traces.
Tapioca ...	Water damage	Evidence of water damage.

MISCELLANY.

Parrots (Prohibition of Import) Regulations, 1930.

Eight vessels arrived in 1934 with 9 parrots on board. Their importation was prohibited under the regulations. One parrot was destroyed under supervision.

Canal Boat Inspection.

No canal boats were in use in the Bristol district during 1934.

Medical inspection of aliens.

During the year 160 aliens landed at Bristol, almost all first-class passengers, in transit or visitors, from the West Indies, and medically presented no difficulties. Those referred for examination are examined on board while the ship is in the locks. Altogether, 100 were inspected by the medical inspector including 16 who were subjected to detailed examination. Three certificates were issued during the year under the Aliens Order, 1920, all concerning aliens who were suffering from conditions "which may interfere with the capacity of the alien to support himself or his dependants,"

Medical Inspection of Aliens.

Annual return by the medical inspector of aliens for year ended 31*st December*, 1934.

	Total	Number inspected by tbe medical inspector	Number subjected to detailed examination by tbe medical inspector	Certificates Issued					Transmigrants	
				Lunatic idiot or M.D.	Undesirable for medical reasons	Physically incapacitated	Suffering from acute infectious disease	Landing necessary for adequate medical examination	Verminous	Trachoma favus, etc.
1.				(a)	(b)	(c)	(d)	(e)		
(a) Total number of Aliens (excluding Alien Seamen) landing at the Port	136	100	16	..	..	3	..	..	..	..
(b) Aliens refused permission to land by Immigration Officer	24	..	..	..	..	..	..	..	..	..
(c) Transmigrants	..	..	..	..	..	..	..	..	..	..
2. Total Aliens arriving at the Port	160	100	16	..	..	3	..	..	..	..

3. (a) Total number of vessels carrying Alien passengers 72
(b) Number of sucb vessels dealt witb by the Medical Inspector .. 49

TABLE A.

Analysis of Aliens landing (see 1 (a)).	Total
Residents returning	8
In Transit	17
Visitors	73
Business	7
Diplomatic	4
Seamen	11
Contract Seamen	7
Ministry of Labour Permit (M.L.) :—	
(a) Males	2
(b) Females	..
(c) Children	..
Aliens coming to settle not holding M.L. permits :—	
(a) Males	2
(b) Females	3
(c) Children	2
Total	136

TABLE B.

Classification of Aliens referred to the Medical Inspector by the Immigration Officer for detailed examination—	Examined	No. of Certificates issued.
(i) holding Ministry of Labour permits	2	..
(ii) intending to remain in tbe country over 3 months	1	..
(iii) intending to make their home in this country	..	..
(iv) students coming for educational purposes	..	..
(v) in regard to whom there is any mention of health as a reason for tbeir visit ..	..	..
(vi) who appear to the I.O. (a) not to be in robust healtb; (b) to be mentally or physically abnormal or sub-normal; (c) to be dirty in their person or (d) are selected for special reasons	2 (a)	2
(vii) seamen travelling as passengers	10	1
Total .. .	15	3

CITY AND COUNTY OF BRISTOL

EDUCATION COMMITTEE

ANNUAL REPORT

OF THE

SCHOOL MEDICAL OFFICER

R. H. PARRY, M.D., B.S., (Lond.), M.R.C.P., D.P.H.

1934

(TWENTY-SEVENTH YEAR)

INDEX.

BRISTOL EDUCATION COMMITTEE.

Chairman—Councillor WALTER BRYANT, J.P.

Vice-Chairman—Alderman W. H. ACKLAND, J.P.

Hygiene Sub-Committee.

Chairman—M. GILES, Esq., J.P.

Alderman W. H. ACKLAND, J.P.

Councillor WALTER BRYANT, J.P.

Rev. W. DILLON, B.A.

Mrs. M. FINN.

Councillor E. T. PUGH.

Councillor A. L. H. SMITH.

W. R. STRAKER, Esq., M.A., J.P.

Councillor T. H. J. UNDERDOWN, M.A., J.P.

Chief Education Officer—
M. O. McAULIFFE, Barrister-at-Law.

CITY AND COUNTY OF BRISTOL.

Population (estimated Mid. 1934)	410,500
Elementary Schools—	
Number of Schools	103
Number of Departments	204
Average Number on Registers	55,093
Average attendance	50,071

SCHOOL MEDICAL STAFF.

School Medical Officer and Medical Officer of Health.

R. H. Parry, M.D., B.S. (Lond.), M.R.C.P., D.P.H.

Chief Assistant School Medical Officer.

A. A. Dalby, *M.C.*, M.R.C.S., L.R.C.P.

Assistant School Medical Officers (Whole-time).

A. F. Alford, M.B., Ch.B.
Monica A. O'Donohoe, M.B., Ch.B., Ba.O.
C. P. Hay, M.B., Ch.B., M.R.C.P., D.P.H. (resigned 9/6/34).
G. C. Kelly, M.D., Ch.B., B.Sc., D.P.H. (resigned 14/7/34).
A. R. Forbes, M.B., Ch.B., D.P.H.
A. Dick, M.B., Ch.B., D.P.H. (appointed 18/6/34).
R. A. Read, M.B., Ch.B., D.P.H. (appointed 3/9/34).

Assistant School Medical Officer (Part-time).

S. B. Green, M.B., D.P.H.

Specialist Medical Officers.

Cardio-rheumatic Section ..	C. Bruce Perry, M.D., Ch.B., M.R.C.P.
Ear Nose and Throat Section	G. R. Scarff, M.B., F.R.C.S. (E.).
Ophthalmic Section	R. R. Garden, M.A., M.B., D.O.M.S., D.P.H.
Orthopaedic Section ..	Hubert Chitty, M.S., F.R.C.S K. H. Pridie, M.B., B.S., F.R.C.S. (Hon. Asst. Orthopaedic Surgeon)
X-ray Section	F. G. Bergin, M.R.C.S., L.R.C.P.

Dental Surgeons (Whole-time)

W. H. B. Stride, L.D.S., (*Supervisory Dental Surgeon*).
A. Lethaby Morgan, L.D.S.
Muriel S. Cosh, B.D.S.
Marion Bentz, L.D.S.
H. Hazell, L.D.S., (Jointly with the Health Committee).

School Nurses.—L. Elkins, *Sister Superintendent.*

M. Bassett	V. P. Bowler	M. Bradley
P. M. Coates	E. M. Cording	H. L. Crocker
M. S. Dall	A. G. Davies	M. J. Devlin
E. S. Fisher	L. Foster	F. E. Fry
M. M. Huntley	W. Johnson	D. S. M. Leighton
P. Picton (apptd. 19/2/34)	A. Robins	D. D. Weston
	H. V. Wilson	

Masseuses and Remedial Gymnasts.

M. Rossi B. D. Robertson C. V. Robertson

Dental Assistants.

E. M. Batten	G. M. Needs
S. Wills (resigned 31/8/34)	M. O. Coates
M. Stephens	P. K. Davies, (apptd. 27/8/34)

Clerical Staff.

A. C. J. Gregory, *Chief Clerk.*

J. H. Middleton	W. H. Hauser	A. Mullany
S. I. Edwards	Ivy M. Porter	Letty R. Pow
Ethel F. Weaver	Emily F. Jones	G. G. Laing
R. H. F. Savage	K. A. Robinson (transfd. to School Medical Dept. 1/11/34)	

SUMMARY OF WORK DONE DURING 1934.

School Medical Officers :—

No. of Visits to Schools	768
No. of Children of Code Groups examined in Schools	16,274
No. of Re-examinations in Schools	6,066

Dental Surgeons :—

No. of Children examined	31,766
No. of Children treated	11,085

School Nurses :—

No. of Visits to Schools	2,431
No. of Examinations of Children	139,061
No. of Homes Visited	15,407

SCHOOL CLINICS.

Total Attendances 163,107

	No. of Attendances.	*Work.*
Central Clinic ..	30,861	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, zinc ionisation, dental treatment, refraction work, X-ray treatment and treatment of scabies cases.
Bedminster Clinic ..	35,958	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
St. George Clinic ..	36,472	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
West Bristol Clinic ..	23,067	Inspection clinic work, treatment of minor ailments, ear, nose and throat clinic, dental treatment and refraction work.
North Bristol Clinic ..	14,310	Inspection clinic work, treatment of minor ailments, dental treatment and refraction work.
Redcross St. Spec. School Clinic ..	18,741	Inspection clinic work, treatment of minor ailments, massage, electrical treatment and remedial exercises.
Tuberculosis Dispensaries ..	1,921	Tuberculosis cases.
Cardio-rheumatic Clinic	1,312	Cases of heart disease and acute rheumatic infection.
Artificial Light Clinic ..	465	Cases of anaemia and debility.

CITY AND COUNTY OF BRISTOL

EDUCATION COMMITTEE.

REPORT

OF THE

SCHOOL MEDICAL OFFICER for the year ended 31st December, 1934.

INTRODUCTION.

I desire to draw special attention to the following matters—further details concerning which are found in the body of the Report :—

Co-ordination (page 9).

The work done during the year by the Joint Committee for the Co-ordination of Medical Services to establish closer working arrangements between the various branches of the health service cannot be too highly praised. All matters concerning health problems are referred to this Committee for discussion, or are initiated by this Committee in the first instance and then referred to other Committees for action.

The Chairman of the Education Committee is the Chairman of this Joint Committee and the Chairman of the Health Committee is the Vice-Chairman.

There is no doubt that the co-ordinative action which has been taken has already resulted in greater efficiency and economy.

School Clinics. (page 14).

In my Report last year, I referred to the need for the reorganisation of these Clinics. The Joint Committee for the Co-ordination of Medical Services has had this matter under consideration during the year, and it is hoped that 1935 will see a definite scheme established.

Scalp Ringworm. (page 15).

Dr. F. Gower Bergin, Medical Officer in charge of X-ray treatment, draws attention to the fact that in twelve years the number of cases on the books at the end of the year has diminished from 120 to 5. This is, indeed, excellent progress.

Heart Disease and Rheumatism. (page 23).

One of the greatest problems in Bristol at the present time is that of rheumatism and rheumatic fever. One hundred and sixty-four cases of organic heart disease were discovered during the year, an increase of 21 upon last year. Two hundred and twenty-seven new cases attended the heart clinic during the year, and 1,085 re-examinations were made—involving a total attendance of 1,312.

This section forms a very important part of the work of the school medical service.

Infectious Disease—Diphtheria. (page 31).

During the year, 1,489 school-children received a full course of immunising inoculations, and for this purpose 156 sessions were given. Children under 10 years of age are immunised without first being Schick-tested, but children over that age are all tested before receiving a course. The importance of the child being brought back after a period of not less than three months to ascertain whether the result is satisfactory, is always impressed upon the parents. In this connection, 1,421 children were Schick-tested after receiving an immunising course and 1,342 were found to be immunised from diphtheria.

Although eight deaths from diphtheria occurred among children of school age during the year, not one of these had been immunised, tested and found negative.

Dental Clinics. (page 19).

The Supervisory Dental Surgeon, Mr. W. H. B. Stride, L.D.S., draws attention to the inadequate dental service for the school children of Bristol. This problem, at the moment, is bound closely to the question of the re-organisation of the clinics. It is hoped that when efficient clinic buildings have been erected in the City, an extension of the school dental service will be made possible.

Aural Clinics. (page 18).

Mr. Gordon R. Scarff, F.R.C.S. (E.), the Aural Surgeon, draws special attention to the importance of ear disease in school children and to the various attempts that are being made in Bristol to eliminate this disease.

Orthopaedic and Postural Defects. (page 21).

It is gratifying to note the steady diminution of gross deformities. In addition to the better care given to the children by parents generally, every attempt is made by the Maternity and Child Welfare Section to ascertain cases at a very early age. One hundred and twenty-one infants under five years of age were dealt with at the Orthopaedic Clinic this year.

Artificial Sunlight Treatment. (page 26).

This form of treatment has now been tried thoroughly by the public health service, and I am convinced that it has taken an important permanent place in our preventive work. There is a large number of children of all ages who benefit considerably by a course of this treatment. It must be remembered, however, that the treatment should be given strictly under medical supervision, for in a limited number of cases, it may do more harm than good.

Provision of Meals. (page 35).

Approximately twenty-thousand more free meals were granted this year than the year previous, and 215,190 milk meals were given. Our method of administering this scheme is discussed on page 35.

It should be noted that only pasteurised milk, approved by the Medical Officer of Health, is used in the schools.

Physical Instruction. (page 33).

Mr. L. F. W. Thompson, Chief Organiser of Physical Training, draws attention to some of the difficulties in regard to organised games for school children in the city.

Eye Clinics. (page 46).

Mr. R. R. Garden, the Committee's Ophthalmic Surgeon, has been responsible for an attempt to test visual acuity in

children attending Infants' Schools so as to ascertain the possibility of refractive errors before examination in the Intermediate Group. He found that it was possible to prescribe glasses in 54 per cent. of the total number referred. Further enquiries are being made.

During the year (October), Dr. W. Ludford Freeman, Director of Education, retired after fourteen years' service. Dr. Freeman has always lent not only his sympathy but his invaluable assistance to the development of the School Medical Service. It was through his active co-operation that co-ordination of the City's Medical Services was made possible. We thank him most sincerely for his kindness and assistance, and wish him long life and happiness.

Dr. Freeman's successor, Mr. M. O. McAuliffe, has also given his ready assistance whenever necessary.

Without the help of Head and Assistant Teachers, much valuable work would have been impossible, and my sincere thanks are due to them and to my colleagues in the Education and other departments of the Corporation.

I wish also to record my appreciation of the excellent work performed by the Medical and Nursing Staff.

The report which follows has been collated by Dr. A. A. Dalby with the assistance of the Chief Clerk, Mr. A. C. J. Gregory.

R. H. PARRY,

School Medical Officer and

Medical Officer of Health.

I.—STAFF.

Dr. C. P. Hay resigned on the 9th June, 1934, and Dr. G. C. Kelly on the 14th July, 1934. To fill the vacancies, Dr. A. Dick was appointed on the 18th June, 1934, and Dr. R. A. Read on the 3rd September, 1934.

Miss P. Picton was appointed to the Nursing Staff on the 19th February, 1934, to fill the vacancy created by the resignation of Miss A. J. Quance in the previous November.

Miss S. Wills resigned her position as dental attendant, and was succeeded by Mrs. P. K. Davies.

II.—CO-ORDINATION OF HEALTH SERVICES.

The scheme of co-ordinating the health services has worked smoothly and efficiently during the year.

The Chief Sanitary Inspector renders a periodic report on the sanitation of schools in the Bristol area for the information of the School Medical Officer.

Arrangements exist between the Education and Health Committees whereby children of pre-school age may be referred by the Maternity and Child Welfare Department to school clinics for the treatment of certain defects and diseases. Details of this scheme are given later in the Report in Section VII.

During 1934, the School Medical Officers, who are also Assistant Medical Officers of Health, gave a total of 149 sessions to duties under the Health Committee, as follows:—

Sessions devoted to Port work	107
Sessions devoted to Tuberculosis Dispensaries ..	34
Sessions devoted to Maternity and Child Welfare work	8
	149

III.—HYGIENE OF SCHOOL PREMISES.

Any defects discovered in schools by the School Medical Officer or his staff are reported to, and remedied by, the Sites and Buildings Department.

During the year the following new school departments have been opened:—

Connaught Road Senior Boys.

Connaught Road Senior Girls.

Speedwell Senior Boys.

Speedwell Senior Girls.

IV.—MEDICAL INSPECTION.

(a) Arrangements for Inspection.

Except in the case of five Schools which have no suitable accommodation, the routine medical inspection of children is held on the school premises. The Head Teachers co-operate in the work very willingly, and their help is much appreciated.

A Nurse visits the school a few days before the Doctor is due, and enters details of height, weight and vision of the selected children on record cards. The Head Teacher sends a printed notice to all parents, stating date and time of the inspection, and inviting their attendance The presence of the parents is most valuable, for not only is the Doctor able to obtain much useful information about the child, the family history, etc., but he has an opportunity of giving directly any required advice to the parent.

The schedule of medical inspection approved by the Board is followed.

(b) Groups Inspected.

The three code groups examined are :—

(*a*) *Entrants*—children who first entered school within the previous twelve months.

(*b*) *Intermediates*—children between the ages of eight and nine years.

(*c*) *Leavers*—children who have reached the age of twelve years.

Special cases are brought to the Doctor's notice during his visit to the schools, and re-examinations are made of children noted as having defects or ailments at a previous routine inspection.

In addition to the above, children aged fourteen years who are in attendance at Central Schools are now given a routine medical examination.

V.—FINDINGS OF MEDICAL INSPECTION.

A complete medical inspection was made of 16,274 children in the usual three age groups during 1934, and 21,657 were

examined because of some special defect. In addition, 167 children (aged 14) were examined who were in attendance at the Central Schools.

(a) Malnutrition.

The number of children found suffering from malnutrition and requiring treatment was 31, while 121 were required to be kept under observation.

(b) Uncleanliness.

The School Nurses and Head Teachers have done splendid work in reducing the number of verminous cases found amongst school children, and one does not often find nowadays a really bad verminous head or scalp covered with impetigo. Minor cases of dirty heads are still numerous, but these are very much easier to deal with since the hair of girls is generally kept shorter now, and special combs have been introduced for the purpose of removing nits.

(c) Minor ailments and diseases of the skin.

Forty-eight cases coming in this category were discovered on medical inspection, 42 of which required treatment.

(d) Visual defects and external eye disease.

Defective vision was reported in 982 cases, and there were 61 children discovered who suffered from squint. In addition, there were 30 cases of external eye disease but this does not include special cases referred to the School Medical Officer.

(e) Nose and throat defects.

	Requiring treatment.	*Observation.*
Enlarged tonsils	251	263
Adenoids	59	51
Tonsils and adenoids	226	90
Other conditions	62	14

(f) Ear disease and defective hearing.

	Requiring treatment.	*Observation.*
Defective hearing	58	8
Otitis media and other ear disease	48	16

(g) Dental defects.

In order not to interfere with the scheme of dental inspection, the Medical Officers only report dental defects which they consider require urgent treatment in view of the condition of the child's health. 1,437 such cases were reported.

(h) Orthopaedic and postural defects.

Defects under this heading requiring treatment were 113 in number, while there were 99 which had to be kept under observation. Only 6 cases of rickets were found and these were not sufficiently severe to need treatment.

(i) Heart disease and rheumatism

The number of children suffering from organic heart disease totalled 164, and 83 had some functional disorder, Twenty-five cases of rheumatism and 5 of chorea were reported.

(j) Tuberculosis.

The following table shows the cases coming under this heading :

	Requiring treatment.	*Observation.*
Pulmonary definite	6	2
Pulmonary suspicious ..	16	5
Glands, etc.	9	1
Other forms .. .	12	2

(k) Other defects or diseases.

121 cases were found to require treatment and 81 needed observation only.

VI.—FOLLOWING-UP.

The various defects found in the course of routine examinations are notified to the parents at the time of inspection, and by a written intimation from the Medical Department within a few days. The necessity for treatment is pointed out, and the parents encouraged in every way to seek the advice of the family Doctor.

After a short interval, a report is received from the Head Teacher, and if no action has been taken by the parents, a Nurse calls at the home at least once and makes every effort to ensure that the School Medical Officer's advice has been followed. The procedure outlined above has in some cases to be repeated several times, but there is a growing tendency on the part of parents to take earlier action than used to be the case.

SCHOOL NURSES.

The work of the School Nurse is one of the most important parts of the Medical Service. Her time is divided between the clinics, the schools, and the homes of the children. The following summary gives some idea of the scope and nature of her duties.

(1). Work in School Clinics.

In addition to the general inspection work, each clinic has several special departments in which a variety of specialized forms of treatment has to be carried out under the direction of the doctors in charge of the different branches. The special forms of treatment are used chiefly for chronic ailments of the skin, ear, and eye, and the cases dealt with can rarely be treated satisfactorily at home.

(2) Work in Schools.

Some days before the Doctor's visit, children due for examination are weighed, measured and tested as to visual acuity. In this way a definite saving of time is effected, and the Doctor is enabled to devote more time to the individual child. 814 visits were paid to schools in connection with these duties last year.

With regard to verminous conditions, skin diseases and general neglect, in the course of 1,617 visits to schools 139,061

examinations of children were made including 11,169 re-examinations of children found to require attention on a previous occasion.

In this work the Nurse and Head Teacher act in close co-operation, and we are greatly indebted to the Teachers for their valuable assistance in this matter.

(3) Home-visiting.

In many cases, the parents do not accompany their children to clinic or medical inspection, and large numbers of visits have to be made at the homes for the purpose of interviewing them. Every effort is made in this way to encourage and assist them in obtaining treatment for ailments discovered in their children. During the year, the number of visits was 15,407.

VII.—TREATMENT.

Five Clinics, the Central, St. George, Bedminster, West Bristol and North Bristol, serve the schools in their respective areas, and have been in full working during the year. Each clinic has an Assistant School Medical Officer in charge, and is also visited by certain Specialists who attend at regular intervals.

At the Central Clinic, in addition to the provision of general treatment for the schools in the surrounding area, X-ray treatment and the bathing of scabies cases is carried out for the entire City.

The St. George, Bedminster, West Bristol and North Bristol Clinics are general treatment and dental clinics for their respective districts.

Clinic work is going on all day, including Saturday mornings in the Central, Bedminster and St. George districts. At the West Bristol and North Bristol Clinics, a general inspection clinic is held on two afternoons weekly, and treatment is carried out every morning session.

All the clinics have now been equipped for refraction work and cases are examined and glasses prescribed by the School Medical Officers.

The Committee's Aural Surgeon has charge of the ear, nose and throat cases and attends four clinics. Zinc ionisation for

the treatment of chronic middle ear disease is carried out under his supervision at the Central Clinic.

The Orthopaedic Clinic is situated at Redcross Street School and deals with cases from the whole City, including children under five.

Cases of acute rheumatic infection in any form and also of non-rheumatic heart disease attend the clinic which has been established in the University Centre of Cardiac Research at Bristol General Hospital.

Tubercular children attend the Municipal Tuberculosis Dispensary.

The total number of attendances at clinics during the year was 163,107.

(a) Malnutrition.

187 cases of malnutrition were treated at the clinics during the year. The treatment consists chiefly of provision of accessory foods, such as cod-liver oil and malt, etc., though many of these children are transferred to open air schools.

(b) Uncleanliness.

Severe cases requiring treatment at the clinic are comparatively rare, and it usually suffices to send instructions to the parent as to method of cleansing.

(c) Skin Clinics.

(1) *Scalp Ringworm.* 27 cases of scalp ringworm were dealt with during the year. Of these, 20 were new cases, and 7 cases were carried over from 1933. All the above were treated at the Committee's clinics.

X-ray treatment.

Dr. F. Gower Bergin, who is in charge of this Department, reports as follows :—

" There is very little fresh to report from last year.

The cases are getting fewer and fewer.

During the whole year only 14 cases were treated and there are very few cases on the books at present.

To all intents and purposes the disease has been stamped out of Bristol.

The table accompanying shows the extraordinary decline in the incidence of the disease. In 12 years there has been a drop from 120 to 5 cases, and there are few new ones cropping up."

The following table shows the number of cases on the books on 1st January in :—

1924	..	..	120
1927	..	..	30
1930	..	..	16
1933	..	..	12
1934	..	..	7
1935	..	..	5

(2) *Body Ringworm.* During 1934 there were 102 cases of this disease under observation, of which 2 were carried over from the previous year. Of these, 101 were treated at the school clinics, and one privately.

(3) *Impetigo.* The school clinics treated 2,310 cases of impetigo during the year, a rapid cure being effected in all cases.

(4) *Scabies.* The bathing of children suffering from itch was carried out during the year at the Central Clinic on the lines described in previous reports. 141 cases were treated, 282 baths being given. The number of children excluded from school suffering from this complaint was 136.

Minor Ailments.

A very large number of miscellaneous cases was treated at the School Clinics. These include various surgical dressings of a minor character, and also various ailments that do not come under any of the above headings.

(d) Eye Clinics.

Mr. R. R. Garden, M.B., D.O.M.S. (Lond.), the Committee's Ophthalmic Surgeon, reports as follows :

"The Eye Department is available for the examination of all cases of defective vision discovered in the course of School Medical work, and during 1934, a total of 2,998 refraction cases was completed at the Eye Clinics. In 408 cases, it was not considered necessary to order spectacles, but a proportion of these were kept under periodic observation at school or clinic. Parents made their own arrangements, apart from the scheme, for the examination and the provision of glasses in 29 cases.

The children are seen at the clinic nearest their homes, and this results in much saving of school and parents' time. At each refraction session, a member of the optician's staff attends to fit spectacles, adjust frames, and obtain signatures to agreements for payment. This ensures that the glasses are obtained promptly, and saves the parents the expense and time required to make a special journey to the optician's premises. Last year, spectacles were ordered for 1,941 children.

Each Assistant Medical Officer is given the opportunity of learning refraction work, and those who have gained special experience assist greatly by undertaking a considerable share of the refraction and other eye cases.

Special attention is given to myopia and strabismus.

Those with short-sight are examined at least once a year, and precautions are taken, as far as possible, to safeguard eyes showing evidence of progressive myopia. Advice on the care of the sight is given to parents, either at the time of the examination, or by the distribution of leaflets on the subject. Cases of squint are detected and treated in as early a stage as possible. Strabismus found in children under school-age is reported by members of the Infant Welfare Department, to whom we are indebted for much valuable assistance in this way. A total of 161 new squint cases, and of 376 others seen in previous years but still under observation, attended during 1934.

Of new cases, 85 were under school age, and were mostly referred by the Infant Welfare Department.

External eye diseases are also treated at the clinics, and 8,718 attendances were made by these cases during the year.

For some time, efforts have been made to discover and rectify defective sight amongst the younger children in the

Infants' Departments of schools, and a short report on this subject appears elsewhere in this Report."

Provision of Spectacles.

The glasses are supplied at a contract price by the Committee's opticians. When the parents cannot pay the amount due at once, arrangements are made for instalments, which are collected by the Attendance Officers.

Spectacles obtained through School Medical Officer	696
Purchased privately by parents	1,220
Supplied by Public Assistance Committee	10
	1,926

In addition to the above, 308 minor repairs were undertaken.

In necessitous cases, the cost is partly or wholly remitted at the discretion of the Committee, after inquiry into the circumstances.

(e) Defects of Nose and Throat.

The number of children found suffering from the above ailments was 2,141, of which 574 received treatment. Operative treatment of enlarged tonsils and adenoids is performed at the various City Hospitals, 278 cases being so treated.

(f) Aural Clinics.

Regular visits are paid to four clinics by the Aural Surgeon, who makes a complete investigation in each case. Almost invariably, a parent attends with the child, and any abnormal condition discovered is explained at the time. When operative treatment is required, printed instructions are given with information as to the days and times when this can be arranged at one of the voluntary institutions.

Practically all cases of chronic ear disease are now treated at the Committee's clinics. Satisfactory attention can rarely be given at home, and for the treatment of ailments such as these the school clinic is admirably suited. The Central Clinic is

equipped with two batteries for zinc ionisation of cases with middle ear suppuration.

Mr. Gordon R. Scarff, F.R.C.S. (E.), the Aural Surgeon, reports as follows :—

" During the past year, the number of children attending the clinic was 977, of whom 731 were suffering from middle ear disease and 246 from other diseases of the ear, nose and throat. The 731 cases of middle ear disease included 447 cases of middle ear suppuration, of whom 103 were still attending for treatment at the end of the year. In a considerable number of these cases there was a focus of infection in the nose or throat, and such cases were referred to Hospitals for appropriate treatment, with satisfactory results in the majority of cases.

Treatment is being continued on the same lines as before, that is, dry treatment by insufflations of iodised boracic powder, with the exception of 60 of the more chronic cases which have been treated at the Central Clinic by weekly zinc ionisation. 412 such treatments have been carried out, and 30 patients have been discharged with dry ears and healed tympanic membranes. Six cases which failed to respond to treatment, and were considered to require more radical measures owing to the presence of chronic infection in the attic region, were referred for operative treatment, and in each case, in addition to the infection of the attic, marked chronic infection of the mastoid antrum was found.

These cases were treated by a modified radical operation with successful results, the hearing being maintained or improved in all cases, and with one exception the ears are now dry.

Sixty-seven cases of children under 5 were referred for opinion in regard to enlarged tonsils and adenoids from the Maternity and Child Welfare Dept."

(g) Dental Clinics.

There are four whole-time dentists at the Central, Bedminster, St. George and West Bristol Clinics, while at North Bristol, Mr. Hazell, who is appointed jointly by the Health and Education Committees, devotes seven sessions a week to the inspection and treatment of children in that district.

Mr. W. H. B. Stride, L.D.S., Supervisory Dental Surgeon, reports as follows :—

" It will be noted that less time has been devoted to inspections and that a greater number of children have received treatment than last year.

The increase in the number of permanent teeth extracted and the decrease in permanent fillings is only an indication of our inability to cope with the work. As soon as we have a larger number of inspected cases awaiting treatment than we can deal with, we have to reduce the time spent in inspection and thus a vicious circle is established, for a long interval between re-inspections means more unsavable teeth.

The rate of consent was approximately 57% and while this is low it is as good as we can hope for at present.

Parents continue to show an increasing interest in their children's teeth and while often in the first instance a reluctance is shown in accepting clinic treatment for a child, they are afterwards willing and eager to have early and conservative treatment for younger members of the family.

The most discouraging part of our work is when the keenly interested parent is unable to obtain treatment in time for conservative treatment to be carried out because of our overloaded scheme.

It is strongly recommended that a dentist be appointed to carry out a routine examination of all patients attending Maternity & Child Welfare Clinics and to offer treatment where they are not receiving it privately.

It is far from satisfactory that children of three or four should make their first acquaintance with the dentist when they are taken to have an extraction because of an abscess or acute toothache. Our work can only become preventive when a dental examination is carried out systematically at an early age.

The dentist should also be able to carry out an inspection of all expectant and nursing mothers of whom under our present scheme only a few selected cases are able to be sent up for treatment."

The following Table gives details of the work done by the whole-time dentists during the year :—

No. of children inspected	31,766

No. of children referred for treatment			25,461
No. of children actually treated			11,085
No. of teeth extracted	Permanent	4,737 ..	24,017
	Temporary	19,280 ..	
No. of teeth filled	Permanent ..	5,710 ..	5,850
	Temporary ..	140 ..	
No. of anaesthetics (local)			5,295
No. of anaesthetics (general)			6,798
No. of dressings			1,854
No. of other operations			1,076
No. of attendances for treatment			21,211

The dental treatment of mothers and young children under the joint scheme of the Education Committee and the Maternity and Child Welfare Committee was carried on throughout the year, and particulars of the work done are given below :—

	Mothers.	*Young Children.*
No. summoned	239	1,090
No. attended	233	871
No. inspected	233	871
No. treated	207	857
No. of attendances	768	2,078

The above work occupied 241 sessions of the Dental Surgeons' time, and 2,846 attendances were made. In 130 cases, mothers were fitted with dentures on the recommendation of the Dental Surgeons.

(h) Orthopaedic and Postural Defects.

The provision of treatment for cases of surgical tuberculosis in school children is the responsibility of the Health Committee, and accommodation is available at Frenchay Park Sanatorium for those requiring in-patient treatment. In regard to children with other crippling ailments such as infantile paralysis, congenital defects and heart disease there is accommodation for 68 cases at Winford Hospital School.

The Education Committee's Orthopaedic Clinic is situated in Redcross Street School, and the staff is kept very busy in treating the large number of cripples attending the school, children from elementary schools, and also cases under school age, the latter

being mostly sent on from the various infant welfare clinics of the city.

The nurse in attendance is qualified in Massage and Medical Electricity, and is assisted by two masseuses, who in addition hold certificates for Remedial Exercises. The Clinic is equipped with the most up-to-date electrical and gymnastic apparatus for orthopaedic work, and practically any form of specialized treatment ordered by the Surgeon can be given on the premises.

Mr. Hubert Chitty, M.S., F.R.C.S., is the Orthopaedic Surgeon in charge of this centre, and his report is as follows :—

" Since the establishment of the Orthopaedic Clinic, I have been struck by the steady diminution of those gross deformities which require severe operative measures for their correction.

Crippling conditions are now usually discovered at an early stage when less drastic treatment suffices and when, in consequence, much better results are obtainable.

The supervision and aftercare of orthopaedic cases entails a great deal of hard work and close co-operation between the medical and nursing staffs, between whom I am glad to say, the happiest relations exist.

I should like to pay a tribute to the unremitting care and attention which the sister and the masseuses bestow upon their patients."

The following Table shows the various ailments found amongst the patients seen :—

	Age 5 and over.	*Under age 5.*
Paralysis : (*a*) Flaccid ..	87	10
(*b*) Spastic ..	40	10
Tuberculosis of Bones and Joints	22	—
Congenital abnormalities of Bones and Joints ..	33	3
Amputations	5	—
Rickets	13	59
Various (flat-foot, spinal curvature, etc.)	334	39
	534	121

In addition to the above, 870 re-examinations were made during the twelve months.

The operations performed at Winford or one of the City Hospitals were as follows :—

Osteotomy	29
Tenotomy	18
Tendon slinging	10
Arthrodesis	6
For tuberculous abscess	7
For hammer toes	9
For torticollis	2
For rickets	9
Wrenching and plaster	8
For Scoliosis	5
For removal of Exostosis	3
Muscular atrophy..	1
Removal of cyst	1
Fractures	2
In addition, children received Hospital treatment for	
General debility	9
Bronchitis and Asthma	1

The provision and maintenance of surgical boots and appliances is a most important matter at a clinic of this kind, and during the year 414 recommendations were dealt with through the agency of the School Medical Officer. Part of the cost is borne by the parent, part by the Bristol Crippled Children's Society and other charitable sources, the deficit being made up by the Education Committee.

(i) Heart Disease and Rheumatism.

Dr. C. Bruce Perry reports :—

" The work of the heart clinic at the University Centre of Cardiac Research at the Bristol General Hospital has continued on the same lines as in previous years. All children with a history of heart trouble or in whom suspicious signs are found by the School Medical Officers are referred to the clinic for further

examination. A certain number of children are also referred by general practitioners for advice as to fitness for school. The diagnosis arrived at as a result of the examination at the clinic is reported to the School Medical Officers together with a recommendation as to the form of treatment required. Children requiring treatment at home are advised to consult their own doctor or to obtain treatment at one of the Institutions, according to their financial ability. A copy of this report is sent to the patient's family doctor, which greatly enhances the value of the clinic by making for more complete co-operation in the care of those children requiring treatment. Thanks to the increased accommodation made available for heart cases at Winford Orthopaedic Hospital, more of these children are able to receive the best treatment for their condition, and it is hoped that in the coming year we shall be able to accommodate the majority of cases requiring active treatment. The difficulty of providing suitable employment for the cardiac cripple mentioned last year, unfortunately is still as great as ever. Many of the heart cases are perfectly fit for work in factories, but are debarred from this by the stringent medical examination imposed by the employers. The result is that unless great care is exercised they drift into more easily obtained laborious work.

The value of the clinic in preventing the unnecessary restriction of those children suspected of heart disease, is shown by the fact that of the 227 new children examined during the year, 98 were found to have no organic heart disease, of whom 90 needed no treatment or restriction. The clinic is also useful in the opportunity it provides for clinical research. The following papers have been published during the past year :—

> " The Lysis of Fibrin by Streptococci : its application to the problems of rheumatic infection in children," by Geoffrey Hadfield, Vincent Magee and C. Bruce Perry. *The Lancet*, 21st April, 1934, p.834.
>
> " The Sedimentation Rate in Rheumatic Carditis," by C. Bruce Perry. *Archives of Disease in Childhood*, Vol. 9, No. 53, October, 1934, p.285.

During 1934, 227 new cases have attended the Cardiac Clinic, and 1,085 re-examinations have been made, making the total number of attendances, 1,312. The following Table shows how the cases have been dealt with :—

SUMMARY OF CASES ATTENDING CARDIO-RHEUMATIC CLINIC.

	No treatment, or restriction.	No treatment but restriction of games.	Treatment, and attend school	Treatment, and exclude from school.	Institutional treatment.	Total.
NEW CASES.						
Rheumatic Heart Disease	30	35	9	10	24	108
No Organic Disease	90	—	3	3	2	98
Congenital Heart Disease	16	—	—	1	1	18
Doubtful	2	—	—	—	1	3
	138	35	12	14	28	227
RE-EXAMINATIONS.						
Rheumatic Heart Disease	435	223	79	30	22	789
No Organic Disease	153	—	2	—	—	155
Congenital Heart Disease	96	9	5	9	1	120
Various	10	11	—	—	—	21
	694	243	86	39	23	1,085

No. of individual children examined	885
No. of new cases for 1934	227
No. of re-examinations	1,085
Total No. of attendances	1,312

(j) Tuberculosis.

A total of 722 children was examined by the Tuberculosis Officer, of which 376 were old cases and 346 new. Of the latter, 28 were classified as definite pulmonary tuberculosis, 46 as cases of non-pulmonary tuberculosis, 30 as suspected tuberculosis, and 242 as non-tubercular.

During the year, 150 children were discharged from sanatoria under the Health Committee's scheme after an average period of 185 days' treatment.

The number of attendances of children at the Tuberculosis Dispensary was 1,921.

Co-operation between the Officers of different departments is encouraged and found to be invaluable to all concerned.

(k) Artificial Sunlight Clinic.

Dr. Marguerite Hughes, Chief Assistant to the Maternity and Child Welfare Department, who is in charge of this clinic, reports as follows :—

During 1934, 27 children of school age were given artificial sunlight treatment. Full details of the cases are given below :

Group A. Debility following Orthopaedic Operation.

1.	Number of cases treated ..	4.
2.	Type of lamp used	Mercury Vapour.
	(*a*) Period of treatment ..	2-3 courses, extending over 8-11
	(*b*) No. of doses	12. (months.
	(*c*) Strength of doses ..	1 minute increasing to 12.
3.	Statement as to other forms of treatment	Under supervision of Orthopaedic Surgeon.
4.	Statement of progress as regards general health.. ..	Very satisfactory improvement in general health in three cases, with healthier colour and gain of weight. Slight improvement in fourth case.
5.	Statement of progress as regards special symptoms ..	In 3 cases there was steady improvement in restoration of function and improved muscular tone. Two children after operation for congenital dislocation of hip were able to walk much more strongly. Fourth case, with persistent discharging sinus showed no change in the local condition.

6.	Any unfavourable symptoms..	None.
7.	General conclusion as to effect of treatment.	Ultra violet therapy appears to be a useful adjunct in the after treatment of orthopaedic cases, both by improving the general health and producing firmer muscles.

Group B. Enlarged Cervical and Mediastinal Glands.

1.	Number of cases treated. ..	2.
2.	Type of Lamp used	Mercury Vapour.
	(*a*) Period of treatment ..	2-5 courses, extending over period of 6 months to 3½ years.
	(*b*) No. of doses	12.
	(*c*) Strength of dose.. ..	1 minute, increasing to 12.
3.	Statement as to other forms of treatment	Tonics, Dental extraction. One case under private doctor.
4.	Statement of progress as regards general health ..	One child showed marked improvement in general condition, with gain in weight and increased vitality. Other child did well after first course, but was set back by having hay fever during the 2nd course.
5.	Statement of progress as regards special symptoms ..	Cervical glands subsided. Further courses required following an attack of broncho-pneumonia (in 1 case).
6.	Any unfavourable symptoms ..	None
7.	General conclusion as to effect of treatment	Insufficient number of cases upon which to base conclusions.

Group C. Bronchitis and Asthma.

1.	Number of cases treated ..	4.
2.	Type of Lamp used	Mercury Vapour.
	(*a*) Period of treatment ..	1-3 courses extending from 6 weeks to four years.
	(*b*) Number of doses ..	12.
	(*c*) Strength of dose.. ..	1 minute, increasing to 12.

3.	Other forms of treatment ..	Operation on nose and throat in 1 case. Cod Liver Oil.
4.	Statement of progress as regards general health ..	Satisfactory improvement.
5.	Statement of progress as regards special symptoms ..	Definite improvement in all cases, with freedom from attacks in one case, and marked diminution in their frequency and severity in the other 3.
6.	Any unfavourable symptoms	None.
7.	General conclusion as to effect of treatment	General and special effect of ultra violet light on children suffering from bronchitis and asthma is definitely beneficial, improving the general resistance and making attacks milder, especially when courses are timed to be given at beginning of seasons when attacks are most liable to occur.

Group D. Dermatitis and Alopecia.

1.	Number of cases treated ..	2.
2.	Type of Lamp used	Mercury Vapour
	(*a*) Period of treatment ..	1 course in each case, extending over a period of 6 weeks
	(*b*) Number of doses.. ..	12.
	(*c*) Strength of dose ..	1-12 minutes.
3.	Statement as to other forms of treatment	Ointment in one case.
4.	Statement of progress as regards general health ..	In both cases there was gain in weight and improvement in general health.
5.	Statement of progress as regards special symptoms ..	The dermatitis cleared up and there was some improvement in the alopecia.
6.	Any unfavourable symptoms ..	None.
7.	General conclusion as to effect of treatment ..	Insufficient number of cases on which to base conclusions.

Group E. Old Rickets.

1.	Number of cases treated ..	2.
2.	Type of Lamp used	Mercury Vapour.
	(*a*) Period of treatment ..	1-5 courses over 6 weeks to 2 years

	(*b*) Number of doses.. ..	12.
	(*c*) Strength of dose ..	1-12 minutes.
3.	Statement as to other forms of treatment	Cod Liver Oil.
4.	Statement of progress as regards general health ..	General condition remained good in first case, fair in second.
5.	Statement of progress as regards special symptoms ..	Definite improvement in walking. Some improvement in bony deformity in case with genu valgum, but age of child against complete cure by medical treatment. Recommended to Orthopaedic Specialist.
6.	Any unfavourable symptoms	No unfavourable symptoms.
7.	General conclusion as to effect of treatment	Insufficient number on which to base conclusions.

Group F. Debility with Eye Disease.

1.	Number of cases treated ..	2.
2.	Type of Lamp used	Mercury Vapour.
	(*a*) Period of treatment ..	1 course in each case over period
	(*b*) Number of doses.. ..	12. of 6 weeks.
	(*c*) Strength of dose.. ..	1-12 minutes.
3.	Statement as to other forms of treatment	Attending Eye Hospital and Eye Clinic respectively
4.	Statement of progress as regards general health ..	Improvement in general condition in both cases, with good gain in weight.
5.	Statement of progress as regards special symptoms ..	Blepharitis completely cleared in one case. Definite improvement in eye condition in second.
6.	Any unfavourable symptoms	No unfavourable symptoms
7.	General conclusion as to effect of treatment	Number treated insufficient to draw conclusions, but results suggest value of ultra-violet radiations in eye disease.

Group G. General Debility.

1.	Number of cases treated ..	11.

2.	Type of Lamp used	Mercury Vapour.
	(*a*) Period of treatment ..	2-4 courses— over periods of 4 months to 1 year.
	(*b*) Number of doses.. ..	12.
	(*c*) Strength of dose ..	1-12 minutes.
3.	Statement as to other forms of treatment	Cod Liver Oil and Tonics.
4.	Statement of progress as regards general health ..	Good improvement in general health in all but one case—this case failed to complete treatment.
5.	Statement of progress as regards special symptoms ..	Gain in weight in all cases, appetite improved and muscles became firmer. In cases associated with anaemia this also improved and colour became healthier. There was freedom from colds, or they became less frequent.
6.	Any unfavourable symptoms	None.
7.	General conclusion as to effect of treatment	General effect of Ultra Violet Light on debilitated children appears to be beneficial.

(l) Clinic for "Difficult Children."

Dr. A. A. Dalby reports :—

There has been no further provision made for the investigation and treatment of this type of child. During the year, twenty cases were seen by me, of whom eleven were children in the care of the Public Assistance Committee. The investigation of these twenty cases involved many interviews with parents, foster-parents and Head Teachers, as well as visits to the clinic. I have received much assistance from various Welfare Associations, Girl Guides, etc.

(m) Medical Treatment of the Pre-School Child.

Children under five years of age may be examined and treated at School clinics when reported by the Maternity and Child Welfare Department.

Any cases of squint, adenoids, dental decay, or crippling defect, are notified direct to the School Medical Officer and the parents are then asked to bring these children to appropriate specialists for examination. Details of these cases are given in the reports in Section VII, pars. (d), (f), (g) and (h).

The Health Visitors are provided with cards by means of which cases of diseases of the eyes, ears, skin and minor ailments can be referred to the clinic for the district.

The following cases were dealt with in this way during the year:—

Eye disease	34
Otorrhoea	113
Skin diseases..	103
Minor ailments	112
Various	14
	376

VIII.—INFECTIOUS DISEASE.

The number of cases of diphtheria occurring in children of school age during the year was 444, a slight increase on 1933. The deaths from this disease were 8 as against 14 in the previous year.

During 1934, 1,489 school children received a full immunising course of inoculations against diphtheria.

The complete figures for the year are as follows :—

Number received full course of immunising inoculations		1,489
Number Schick-tested after immunising course		1,421
Number of observations		1,370
Results—		
Negative	1,342	
Faint positive	3	1,370
Positive	25	
Percentage negatives, 1934		97.9
Percentage negatives, 1933		72.5
Percentage negatives, 1932		40.0

The incidence of scarlet fever shows an increase over that of 1933, 735 cases as against 502. More than half the cases occurred during the last quarter of the year.

The total number of non-notifiable diseases shows a decrease of 1,066 as compared with 1933. Whooping-cough, chicken-pox

and measles persisted throughout the year, but were most prevalent in the first six months. Only one death was attributed to measles.

German measles began to show signs of becoming epidemic towards the end of the year.

The following Table gives details of notifiable and non-notifiable infectious diseases for the year :—

A.—CASES OF NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN, WITH CONTACTS.

1934	Cerebro-Spinal Fever		Polio-encephalitis and Poliomyelitis		Scarlet Fever		Diphtheria		Encephalitis Lethargica	
	Cases	Contacts	Cases	Contacts	Cases	Contacts	Cases	Contacts	Cases	Contacts
1st Quarter	1	7	—	—	120	189	107	262	—	—
2nd Quarter	1	9	1	1	105	222	92	161	1	4
3rd Quarter	—	—	1	2	136	162	85	198	2	5
4th Quarter	1	7	—	1	374	347	160	297	1	1
	3	23	2	4	735	920	444	918	4	10

CASES OF NON-NOTIFIABLE INFECTIOUS DISEASES AMONGST SCHOOL CHILDREN

	1st Quarter	2nd Quarter	3rd Quarter	4th Quarter	Totals
Whooping Cough	641	826	108	64	1,639
Chicken Pox	528	266	138	295	1,227
Mumps	27	14	1	8	50
Measles	1,008	443	237	64	1,752
German Measles	19	115	40	180	354
	2,223	1,664	524	611	5,022

B.—1934.

Cause of Death (Ages 5-15).	
Scarlet Fever	1
Diphtheria and Croup	8
Influenza	—
Encephalitis Lethargica	1
Cerebro-spinal Fever	1
Tuberculosis of Respiratory System	2
Other Tuberculous Diseases	12
Cancer and Malignant Disease	2
Diabetes	—
Heart Disease	3
Pneumonia (all forms)	5
Rheumatic Fever	11
Appendicitis	5
Digestive Diseases	4
Congenital Debility and Malformation	5
Violent Deaths	17
Nephritis	1
Measles	1
Other Diseases	25
All Causes	104

IX.—OPEN AIR EDUCATION.

Except for the fact that most of our modern schools are built on open air lines, no special provision is made for open air education in public elementary schools.

X.—PHYSICAL INSTRUCTION.

The closest co-operation exists between the School Medical Officer and the Organisers of Physical Training. Children unfit for games and exercises, or requiring modifications of these are notified to the Physical Instruction Department, and in the cases of spinal curvature, flat-foot, etc., occurring among students in Secondary Schools special remedial exercises are given.

Mr. L. F. W. Thompson, Chief Organiser of Physical Training, reports :—

"As a result of the publication by the Board of Education of a revised Syllabus of Physical Training, there has been a marked interest in this subject during the past year. Children and teachers have taken up the new work with enthusiasm and considerable progress has been made. The subject matter of this new book has been given a fair trial and one can say with assurance that not only does it make a strong appeal to the children but that the physical and mental benefits to be derived from a systematic application of its suggestions have already been experienced.

Many teachers found difficulty in interpreting the new ideas of this Syllabus but arrangements were made to hold " Refresher Courses " during the year and it is pleasing to note that no less than 260 teachers have attended these Courses and each has received twenty-five hours' instruction. The beneficial result of attendance at these Courses has been most noticeable and in every case the teachers have returned to take up the new work with renewed interest and confidence. The Head Teachers are to be congratulated upon their willing co-operation in sparing members of their Staffs for attendance at these " Refresher Courses."

Many other opportunities have been given the teachers to acquaint themselves with modern methods by means of demonstrations, etc., and whilst the attendance has been encouraging there are still many who could benefit who have not taken full advantage of such opportunities.

Systematic instruction in Physical Training is being given in all the elementary schools under the Committee's control and the ideal of some organised physical activity on each day has in most cases been achieved. Each senior class in a school which has not been re-organised is now expected to take a minimum of 80 minutes physical exercises per week in addition to 45 minutes for organised games. The junior classes have 80 minutes for physical exercises, plus 30 minutes for organised games.

In the Senior Re-organised schools, 90 minutes per week is given up to physical exercises plus 45 minutes for organised games. In the case of these schools portable apparatus is employed ; consequently, the physical training lesson is of 30 minutes duration. In many schools, considerable progress has been made in getting the children to change or remove some of their clothing for the physical training lesson, and this is a step in the right direction. In the Senior Schools where portable apparatus is used suitable light shoes are essential.

The facilities for Organised Games often present considerable difficulty and the time taken by some schools to reach the playing field is a matter for consideration. Children cannot be expected to obtain the full benefit from organised games if they are already tired by the long walk to the field. It would appear that the provision of some means of transport in certain difficult cases will become necessary.

Swimming.

In spite of the fact that the swimming period was reduced from $\frac{3}{4}$ to $\frac{1}{2}$ hour, the results show that progress has been maintained. Style, which is an important feature of good swimming has not received the attention it deserves and it is doubtful if long distance swimming by children of elementary school age is really advisable. This year there has been a drop in the number of Mile Certificates gained but this was to be expected since so many were gained in 1933, when this event was first introduced.

This year, for the first time, Bristol has been awarded the National Elementary Schools' Trophy for Life Saving

The results for the 1934 season are :—

Corporation Certificates	2,651
One Mile Certificates	1,005
Life Saving Awards	1,320
No. of children who can swim 1 width ..	1,200
No. of children who can swim 1 length ..	2,094

XI.—PROVISION OF MEALS.

During the year, 257,306 free dinners have been granted as compared with 237,035 in 1933. In addition, 215,190 free milk meals were given.

Milk in Schools.

The Education Committee's scheme for the provision of milk in Junior and Infants' Schools commenced on the 1st April, 1931, was continued until the end of September, 1934. Although the scheme was mainly a voluntary one, provision of milk was made to necessitous children, an extension being made in July, 1934, to cover all Infants' Departments. On the 1st September, 1934, the daily consumption of milk was 11,000 bottles of which 1,100 were supplied free. The Milk Marketing Board's Scheme came into operation on the 1st October and by the 22nd October, all schools under the control of the Local Education Authority were being supplied.

On the 15th December, 1934, the average number of bottles being supplied daily was 33,556, of which 3,350 were free. It is interesting to note that the percentage of free milk prior to the Milk Marketing Board's Scheme and after its adoption was practically the same.

The Board of Education in its circular No. 1437 stated that " it considers the selection of children for free meals should be made by a system of medical selection by the Authority's Medical Officers, and for this purpose they would regard it as proper that children should be selected who show any symptoms, however slight, of subnormal nutrition."

The Education Committee adopted this principle, but decided to confine it only to new applications and not to those already having relief. All Head Teachers were asked to notify

the Medical Department of children who appeared to them to be in need of additional nourishment. Between the 5th October and 31st December, 1,932 applications, made up as follows, were dealt with :—

	Parents' applications	*Teachers' recommendations*	
	1,274	658	
Failed to attend for examination ..	251	101	
Certificates not granted	35	45	1,580
Certificates granted ..	988	512	

The serious point in these figures is the total number of absentees, namely 352, each of whom has been given two appointments for medical examination. The reason for this is being investigated.

The system of medical selection has brought out the knowledge that many parents in very poor circumstances were able to keep their children in a reasonable state of nutrition, though obviously at great self-sacrifice.

XII.—CO-OPERATION OF PARENTS.

Some days before a routine medical inspection in school, written notification is sent to the parents requesting their attendance at the examination and during the year the number present at routine inspections was 13,186. The following is an analysis of these attendances :—

Code Groups	No. of Children Examined	No. of Parents present	Percentage
Entrants ..	5,492	5,156	93.88
Intermediates ..	5,096	4,209	82.59
Leavers ..	5,686	3,821	67.20
	16,274	13,186	81.02

This percentage is an increase of 2.71 on last year.

At the clinics, when any special examination is required (*e.g.* for eye, ear and orthopaedic cases) the parent almost invariably accompanies the child.

The increasing interest amongst the parents in regard to matters of hygiene is maintained, and on the whole they co-operate readily with the School Medical Department in any efforts to improve the health of the children.

Co-operation of Teachers.

It is again our very pleasant duty to express our gratitude to the Bristol teachers for the invaluable and ungrudging help given to us during the year. As our work increases we realize more and more to what extent the efficiency of our service depends on this assistance.

Co-operation of School Attendance Officers.

A close relationship exists between the School Medical and School Attendance Departments. The Superintendent Attendance Officer and his staff provide reports on a large number of children, and assist greatly in securing the attendance of absentees for examination at clinics. By their visits to homes, they obtain information in regard to environment and other factors which may affect the health of children, and this is often of great assistance to us in dealing with difficult cases. A number of parents who refuse to obtain treatment for their children are visited and action is taken in cases of neglect and cruelty.

The Attendance Officers also help by collecting the small weekly instalments by which the majority of parents prefer to pay for spectacles and surgical appliances supplied to their children. This means a great deal of home visiting and a considerable amount of clerical work.

Co-operation of Voluntary Bodies.

The Winford Orthopaedic Hospital incorporating the Bristol Crippled Children's Society, assisted in dealing with a large number of crippled cases during the year : 111 were sent to this hospital for prolonged periods, 20 to other hospitals at the seaside or in the country, 61 to convalescent homes, and 24 to farms ; while 414 cases were assisted in the provision of surgical appliances.

In regard to the latter, the Education Committee make up any deficit that may arise in the case of children attending the Redcross Street School for Physically Defective Children, and of elementary school children for whom the Committee's Orthopaedic Surgeon has ordered apparatus.

In connection with this hospital, the After-Care Committee, of which Dr. Dalby, and Mr. Gregory are members, meets at regular intervals to consider means of assisting patients after their discharge from Winford Hospital, or Redcross Street School, and also children leaving the Deaf and Partially Sighted Schools.

Cases where definite cruelty is discovered are reported to the National Society for the Prevention of Cruelty to Children, and the parents cautioned, or prosecuted by their Inspectors. The good work done by this Society is very much appreciated by the department.

XIII.—BLIND, DEAF, DEFECTIVE & EPILEPTIC CHILDREN.

The methods of ascertainment and classification of these cases have been described in previous reports. At the present time four of the Medical Officers in the department are recognised by the Board of Education for the purpose of Section 55, Education Act, 1921, and Section 31, Mental Deficiency Act, 1913.

(a) Feeble-minded Children.

The Committee maintains two schools for feeble-minded children : Redcross Street School which accommodates 199, and Orchard Place School which accommodates 88. The total number in the two schools at the end of the year was 221.

The figures are set out below :—

	Redcross Street	*Orchard Place*	*Total*
No. admitted during 1934 ..	25	10	35
No. discharged	60	24	84
No. on register at end of year	159	62	221

In addition the Committee maintains three boys at Besford Court.

The number of retarded children referred by Head Teachers and investigated during the year was 138. In addition, 39 children

attending Special Schools were examined at the request of their parents, who made application for them to leave school before attaining the age of sixteen.

A systematic re-examination of the children attending these schools was carried out during the year.

Reports on the mental capacity of 46 children admitted to the care of the Public Assistance Committee, were furnished.

(b) Physically Defective Children.

At Redcross Street School, the recognised accommodation for physically defective children is 140. The cases admitted include disease of bones, joints and general nervous system, with, in addition, a number of "cardiac cripples" having congenital or rheumatic heart disease.

The children are conveyed to and from Redcross Street School in special ambulances, and the majority of the scholars have their mid-day meal in school.

Mr. Chitty, the Orthopaedic Surgeon, visits the school twice weekly to examine children and to advise as to treatment, which is carried out in the Orthopaedic Clinic attached to the School.

In addition to cases reported by the School Medical Department, a considerable number of children under school age are referred to this clinic by the Maternity and Child Welfare Department. In this way, children with crippling defects are treated during the earliest stages of the disease.

The Nurse in attendance carries out a large amount of massage and electrical treatment, and also all the necessary work in connection with the treatment of eye, ear, skin and minor ailments for both departments of the school. The total number of attendances made for treatment last year was 17,385, of which, 7,288 were for orthopaedic treatment and 10,097 for the other ailments mentioned.

Surgical boots and appliances are obtained for the children on the advice of the School Medical Officer, and a large number of repairs to apparatus are made every year through the same agency.

During the year the following admissions and discharges were made :—

No. of admissions	51
No. of discharges..	43
No. on register at end of year	125*

**Including one boy from another authority.*

The following table shows the different ailments from which the children are suffering :—

	Boys	*Girls*	*Total*
Paralysis : (*a*) Flaccid	21	22	43
(*b*) Spastic	9	10	19
Tuberculosis : Bones and Joints	10	4	14
Congenital abnormalities of bones and joints	4	—	4
Amputations	3	—	3
Spinal curvature (non-tubercular)	1	10	11
Rickets	2	4	6
Heart Disease and Chorea ..	1	3	4
Muscular Atrophy	—	3	3
Talipes	5	8	13
Encephalitis	1	—	1
Cut Tendon	1	—	1
Dislocated Hip	1	4	5
Arthritis	1	—	1
Haemophilia	3	—	3
Thyroid Deficiency	2	—	2
Renal dwarfism	1	—	1
Petit Mal	3	1	4
Fragile Bones	—	1	1
Arthritis	1	—	1
Sprengels Shoulder	1	—	1
Hernia	1	—	1

(c) Delicate Children.

(1) *Knowle Open Air School.* The delicate and convalescent children who attend this school are recommended by the medical staff of the Corporation, and by doctors at the Bristol Hospitals or in private practice. One of the School Medical Officers visits the school every week to examine special cases and ensure that

each child is inspected at least once every six months. A nurse is in attendance all day for the purpose of treating minor ailments, supervising meals, etc. One afternoon a week is devoted to home visits.

Dental treatment is carried out by one of the Committee's dentists.

During 1934 the figures for the School were as follows :—

No. of admissions	49
No. of re-admissions	10
No. discharged fit for work	14
No. discharged fit for ordinary school ..	32
No. discharged for other reasons	11
	57
No. on registers at end of 1934	121
Average attendance	102.2

(2) *Park Classes.* In St. George, Eastville and Bedminster Parks, classes for delicate children are held in the bandstands all the year round. The classes are conducted on similar lines to those of Knowle Open Air School, and have the advantage of being near to the homes of the children.

	Bed-minster	*East-ville*	*St. George*
No. on the registers at the end of 1934	27	26	24
Average attendance for the year	22.3	23.5	20.7

(d) Deaf Mute Children.

Moorfields Special School now has accommodation for 125 children. There were on the registers at the end of the year 119 children, of whom 68 have progressive short sight or seriously damaged vision, 15 are partially deaf and 36 totally deaf.

Although these children are in the same building and under the same Head Teacher, the three different groups are, of course, kept quite separate both educationally and socially.

No. of admissions during 1934	10
No. discharged during 1934	10
No. on register at end of year	36*

**Ten children were transferred from the Partially Deaf to the Totally Deaf Dept. during* 1934.

Of this total 1 boy and 6 girls come from other Authorities. In addition 2 boys are maintained at the Institution for Deaf and Dumb Children, Exeter.

(e) Partially Sighted Children.

In this Department, the children have defects of the eye or vision which make teaching by ordinary methods undesirable. At the same time, they are not cases which require attendance at a Blind School, and are not likely to take up occupations generally selected by the blind. The whole curriculum is therefore designed to prevent eye strain, the teaching is mainly oral, and every effort is made to train the children to avoid overuse of the eyes All cases are under careful and regular supervision by the ophthalmic consultant.

No. admitted during 1934	14
No. discharged during 1934	18
No. on register at end of year	68

Of this total, 3 boys and 1 girl come from another Education Authority.

(f) Partially Deaf Children.

In the Partially Deaf Department, the children are too deaf to benefit from the instruction given at ordinary school. They still retain sufficient hearing, however, to keep them from degenerating into the deaf-mute condition, and every effort is made to retain the speaking voice by means of speech exercises and lip-reading.

No. admitted during 1934	1
No. discharged during 1934	5
No. on register at end of year	15

Of this total, 3 boys come from other Authorities.

(g) Blind Children.

Twenty blind children are maintained by the Education Committee at the following school :—

Westbury Blind Asylum	..	20 (16 boys, 4 girls).

In addition, one girl is maintained at North Wales School for Blind Children, Rhyl, and one boy at the Roman Catholic Blind School, Liverpool.

XIV.—FULL TIME COURSES OF HIGHER EDUCATION FOR BLIND, DEAF, DEFECTIVE AND EPILEPTIC STUDENTS.

Provision is made at the Royal School of Industry for the Blind, Westbury-on-Trym, for Higher Education blind cases. Most of the young people concerned were in the school before reaching the age of 16. The number being maintained at the school by the Local Education Authority at the end of 1934 was 9.

Payment has also been made by the Authority towards the maintenance of five adult trainees during their period of training at the Blind Workshops As soon as their period of training is completed, they are employed as paid workers in the workshops and the financial liability is then undertaken by the Blind Persons Act Committee.

No contribution is being made at the present time towards the Higher Education of any deaf, defective or epileptic young persons, no request having been made to the Education Committee.

XV.—NURSERY SCHOOL AND CLASSES.

No additional accommodation for pre-school children has been provided since the last report.

An ultra-violet ray lamp has been installed in the clinic associated with the Castle Green Nursery Class.

The number of children on the registers at the end of 1934 was as follows :—

	No. on registers,
St. Werburgh's Nursery School	117
Castle Green Nursery Class	49

The scheme of medical inspection in these schools is for every child to be given a routine examination at intervals of six months, unless the infant's condition necessitates it being seen more frequently. The number of inspections made during the year was 326 at St. Werburgh's and 85 at Castle Green.

Cases for action are shown in the Table below :—

	St. Werburgh's.	*Castle Green*
Skin Disease	1	—
Eye disease	1	—
Squint	2	—
Otitis media	1	—
Other ear disease	8	5
Enlarged tonsils	4	—
Adenoids	5	—
Tonsils and adenoids ..	1	—
Other nose and throat conditions	4	2
Teeth	25	3
Deformities	5	1
Other defect	4	- -

In addition, 2 children were recommended courses of ultra violet ray treatment.

A considerable number of children not requiring immediate treatment is kept under constant observation.

As formerly, Dr. M. G. Hughes, Chief Assistant, Maternity and Child Welfare Department, has been responsible for the medical inspection, whilst the Health Visitors for the respective districts attend daily to treat minor ailments, etc.

XVI.—SECONDARY SCHOOLS.

There are twelve non-Municipal and four Municipal Secondary Schools, with one Junior Technical School, in the city.

(1) Medical Inspection.

Medical inspection is only carried out in the Municipal Secondary Schools and the Junior Technical School. These schools with their accommodation and average attendance are :—

Secondary—	*Accommodation*	*Average Attendance*
Cotham (Boys)	600	553
Fairfield (Boys and Girls)	480	486
St. George (Boys and Girls)	470	468
Merrywood (Boys and Girls)	280	283
	1,830	1,790
Technical—		
Temple Junior Technical..	100	98

All children obtaining special places in Secondary Schools are required to pass a medical examination prior to admission, and the number so examined in 1934 was 272.

All the pupils of these schools, irrespective of whether they are free-place students or otherwise, are subjected to an annual medical inspection. In the case of girls, Dr. Monica A. O'Donohoe carries out the examination.

Parents are invited to attend but the response is not nearly so good as in the case of elementary schools.

The number of children examined in a routine way during 1934 was 1,903, including Junior Technical pupils.

The system of following up defects is the same as that for elementary school children.

(2) Medical Treatment.

Any physical defects found are notified to the parents, who usually make arrangements with the family doctor for treatment except in the case of defects which require prolonged or specialized treatment. For instance, ailments of the eye, ear, nose and throat are usually attended to at one of the school clinics. Spectacles are as a rule provided through the School Medical Department, on the prescriptions of the Committee's Oculists.

Where remedial exercises are advisable for the rectifying of spinal curvature, flat-foot, etc., a report is sent to the Chief Organiser of Physical Training, under whose direction appropriate exercises are given in school. In a few cases the treatment is given at the Orthopaedic Clinic by one of the Remedial Gymnasts.

No differentiation is made between "special place" or fee-paying pupils who wish to avail themselves of treatment under the Authority's scheme. Whilst no charge is made for treatment at the school clinics, voluntary contributions are invited from those seeking dental treatment.

XVII.—PARENTS' PAYMENTS.

No charge is made to parents for treatment of either elementary or secondary school children but they are invited to make voluntary contributions.

The cost of spectacles and surgical boots is recovered from the parents by instalments which are collected by the Attendance Officers. The Education Committee, however, in necessitous cases may remit part or whole of the cost.

Cost of Spectacles	£142	0 6
Amount recovered	£125	13 9
Cost of Surgical appliances ..	£104	3 6
Amount recovered	£61	14 11

XVIII.—HEALTH EDUCATION.

The Staff of the School Medical Service do not give any direct instruction in Health Education in schools. They have, however, given lectures on Medical and Dental Work to various "Parent-Teacher" Societies.

XIX.—SPECIAL ENQUIRIES.

Towards the end of 1933, it was decided, in consultation with the Committee's Ophthalmic Surgeon, to attempt the testing of visual acuity in children attending Infants' Schools. It was felt that possibly certain refractive errors might have a deleterious effect on the health or education of the children if not discovered and corrected before examination in the Intermediate Group.

A considerable proportion of children in Infants' Schools can recognise letters of the Snellen or simplified non-serif type

and it is possible to detect defective vision in many young children in this way. For testing those who were uncertain of letters or too young to know them, a card of silhouette pictures was provided for the Nurses to use when preparing infants for medical inspection. (These picture tests were designed by Mr. R. R. Garden primarily for estimating the effects of treatment on amblyopia due to squint, but had also been found useful in the Eye Clinics as an approximate test of visual acuity). As the medical record cards began to come into the office, it became obvious that testing children under the age of five by picture test-types was unreliable in many cases, and some additional evidence of visual defect was usually sought before submitting such cases to refraction. The figures which follow, therefore, refer to children between the ages of five and seven, sent for refraction by the School Medical Officers.

Of the 80 cases referred in this way, half had been tested in school by letters and the rest by pictures. The refraction was carried out in most of the cases after the use of atropine for a week.

In the first group, it was found advisable to prescribe glasses in 21 cases, and in the second group in 22 cases; that is in approximately 54 per cent. of the total number referred. The children not requiring spectacles were mostly cases with normal refraction or minor degrees of hypermetropia.

The following is an analysis of defects found amongst those for whom glasses were prescribed:—

	Letter test.	*Picture test.*	*Totals.*
Hypermetropia	5	5	10
Hypermetropic astigmatism ..	15	11	26
Myopia	—	—	—
Myopic astigmatism	1	1	2
Mixed astigmatism	—	5	5
	21	22	43

The number dealt with is comparatively small, but the result is interesting as showing the value of an attempt to detect visual defects in younger children.

In view of the above experience, it seems worth while to continue this work in Infants' Schools.

It should be noted that these figures do not include children referred for "squint". A scheme for the treatment of such cases has been in operation for eleven years.

XX.—MISCELLANEOUS.

The following report has been sent by Mr. C. K. Rossiter, Employment of Children Inspector :—

" The administration of the Employment of Children Act, 1903, Education Act, 1921, and Children and Young Persons Act, 1933, for the period from 1st January, 1934, to 31st December, 1934, is as follows :—

During the year there were 1,207 cases of infringement of the above Acts.

By Employers	574
By Parents	562
By Street Traders	13
Prosecutions, etc...	58

These were dealt with as follows :—

Warned	1149
Prosecuted	20
Employment Cards revoked	—
,, ,, refused	16
Street Traders' licences refused ..	10
Entertainments licences refused ..	8
,, for charitable objects refused..	4

Registered Children.

During the year 407 children between 12 and 14 years of age were registered for employment in :—

	Boys	*Girls*
Delivery of newspapers ..	304	1
,, milk	12	—
Indoor domestic work ..	8	—
Errands	65	—
Delivery of meat	13	—
,, bread ..	2	—
,, coal	1	—
Gardening	1	—

Children employed between 7.0 *a.m. and* 8.0 *a.m. on schooldays and for Saturdays and holidays.*

259 children were registered for employment between 7.0 a.m. and 8.0 a.m. as follows:—

Delivery of newspapers	250
,, milk	2
Indoor domestic work	7

Children employed between 8.0 *a.m. and* 10.0 *a.m. on Sundays.*

121 children were registered for employment between 8.0 a.m. and 10.0 a.m. on Sundays as follows —

Delivery of newspapers	116
,, milk	2
Domestic work	3

The total number of children registered for employment between 4th April, 1921, and 31st December, 1934, was 7,915.

Young Persons.

Nil. (See Children and Young Persons Act, 1933, Sec. 20).

Entertainments.

48 children were licensed under the Children and Young Persons Act, 1933, to take part in Public Entertainments.

No. of children licensed by Bristol Authority	29
No. of children licensed by other Authorities	19

27 Visits were made to the theatres, apartments and schools to ascertain that the conditions and restrictions of these licences were complied with.

4,785 children were granted permission to take part in 270 entertainments given for charitable purposes. Halls and dressing-rooms were visited to ascertain that the general conditions under which these children were employed were satisfactory."

Fifty-one cases were notified under the Mental Deficiency Act to the Local Control Committee during the year, and were classified as follows :—

		Boys	*Girls*	*Total*
(1).	(i) Children incapable of receiving benefit or further benefit from instruction in a Special School :			
	(*a*) Idiots	—	—	—
	(*b*) Imbeciles	11	9	20
	(ii) Children unable to be instructed in a Special School without detriment to the interest of other children.			
	(*a*) Moral defectives	—	—	—
	(*b*) Others	4	2	6
(2).	Feeble-minded children notified on leaving a Special School on or before attaining the age of 16	17	8	25
(3)	Feeble-minded children notified under Article 3, i.e., "special circumstances" cases	—	—	—
(4).	Children who in addition to being mentally defective were blind or deaf	—	—	—
	Grand Total ..	32	19	51

The following special medical examinations were made during the year :—

Candidates for " Special Places " in Secondary Schools ..	272
Children examined under Employment of Children Act ..	395
Teacher Exhibitioners	22
Cases examined under the Superannuation Act on appointment to or discharge from the Corporation service ..	22

TABLE I. (SECONDARY).

NUMBER OF CHILDREN INSPECTED 1ST JANUARY, 1934, TO 31ST DECEMBER, 1934.

A.—ROUTINE MEDICAL INSPECTION.

Age	10	11	12	13	14	15	16	17	18	19	20	Grand Total
Boys	24	186	203	277	256	166	78	18	22	—	—	1,230
Girls	12	86	143	173	136	82	28	9	3	1	—	673
Totals	36	272	346	450	392	248	106	27	25	1	—	1,903

B.—SPECIAL INSPECTIONS.

Re-examinations (*i.e.*, No. of children re-examined) 244

TABLE II. SUMMARY OF TREATMENT OF DEFECTS.

Defect or Disease.	Number of Children Treated.		
	Under Local Education Authority's Scheme.	Otherwise	Total.
Skin	1	—	1
Visual Defects	151	11	162
Nose and Throat	28	8	36
Eye Disease	2	2	4
Deformities	18	—	18
Miscellaneous	12	1	13
Total ..	212	22	234

TABLE III. (SECONDARY).

RETURN OF DEFECTS FOUND IN THE COURSE OF MEDICAL INSPECTION IN 1934.

Defect or Disease.	Routine Inspections.	
	Number referred for treatment.	Number requiring to be kept under observation, but not requiring treatment.
1	2	3
Malnutrition	3	—
Skin and Hair	11	—
Teeth	253	1
Nose and Throat	38	1
Glands	—	—
External Eye Disease	4	—
Vision	162	7
Colour Sense	—	—
Ear Disease	2	—
Hearing	—	—
Speech	—	—
Thorax	—	1
Heart and Circulation	10	2
Anaemia	1	1
Lungs	2	3
Nervous System—Headache	—	3
Overstrain	—	1
Indigestion	—	1
Constipation	1	—
Spinal Curvature	6	—
Flat Foot	24	4
Other Defect	2	2
Catamenia	—	—

Number of Children		Percentage of Children found to require Treatment.
Inspected.	Found to require Treatment.	
1,903	*240	12·6

*Excluding Uncleanliness and Dental Disease.

ELEMENTARY SCHOOLS.

TABLE I.—RETURN OF MEDICAL INSPECTIONS.

A. ROUTINE MEDICAL INSPECTIONS.

Number of Code Group Inspections	
Entrants	5,492
Second Age Group	5,096
Third Age Group	5,686
Total	16,274
Number of other Routine Inspections	167

B. OTHER INSPECTIONS.

Number of Special Inspections	21,657
Number of Re-inspections	22,231
Total	43,888

TABLE IIB.

B. NUMBER OF *individual children* FOUND AT *Routine* MEDICAL INSPECTION TO REQUIRE TREATMENT (EXCLUDING UNCLEANLINESS AND DENTAL DISEASES).

Group (1)	Number of Children Inspected. (2)	Number of Children Found to require treatment (3)
PRESCRIBED GROUPS:—		
Entrants	5,492	635
Second Age Group	5,096	704
Third Age Group	5,686	678
Total (prescribed groups)	16,274	2,017
Other routine inspections	167	23

TABLE IIA.

A. RETURN OF DEFECTS FOUND BY MEDICAL INSPECTION IN THE YEAR ENDED 31ST DECEMBER, 1934.

Defect or Disease (1)		Routine Inspections. No. of Defects. Requiring treatment (2)	Routine Inspections. No. of Defects. Requiring to be kept under observation, but *not* requiring treatment (3)	Special Inspections. No. of Defects. Requiring treatment (4)	Special Inspections. No. of Defects. Requiring to be kept under observation, but *not* requiring treatment (5)
Malnutrition		31	121	187	8
Skin	Ringworm :—				
	Scalp	—	—	27	—
	Body	2	—	100	—
	Scabies	8	—	128	—
	Impetigo	6	—	2,304	3
	Other Diseases (Non-Tuberculous)	26	6	651	36
Eye	Blepharitis	16	3	317	2
	Conjunctivitis	1	1	331	3
	Keratitis	—	—	3	—
	Corneal Opacities	—	—	35	—
	Defective Vision (excluding Squint)	851	131	978	8
	Squint	40	21	85	—
	Other Conditions	7	2	566	11
Ear	Defective Hearing	58	8	75	3
	Otitis Media	44	15	630	5
	Other Ear Diseases	4	1	382	9
Nose and Throat	Chronic Tonsillitis only	251	263	187	26
	Adenoids only	59	51	12	14
	Chronic Tonsillitis and Adenoids	226	90	359	47
	Other Conditions	62	14	985	184
Enlarged Cervical Glands (Non-Tuberculous)		11	61	327	35
Defective Speech		4	17	16	1
Heart and Circulation	Heart Disease :—				
	Organic	101	63	47	20
	Functional	12	71	23	7
	Anaemia	43	68	135	42
Lungs	Bronchitis	62	133	557	48
	Other Non-Tuberculous Diseases	6	3	267	110
Tuberculosis	Pulmonary :—				
	Definite	6	2	3	2
	Suspected	16	5	33	10
	Non-Pulmonary —				
	Glands	9	1	9	—
	Bones and Joints	—	—	—	1
	Skin	—	—	2	1
	Other Forms	12	2	8	—
Nervous System	Epilepsy	5	9	7	1
	Chorea	1	4	24	13
	Other Conditions	2	27	58	22
Deformities	Rickets	—	6	1	—
	Spinal Curvature	42	42	2	—
	Other Forms	71	51	54	7
Other Defects and Diseases (excluding Uncleanliness and Dental Diseases)		121	89	4,478	798

TABLE III.—RETURN OF ALL EXCEPTIONAL CHILDREN IN THE AREA

			Total
Children suffering from the following types of Multiple Defect, *i.e.*, any combination of Total Blindness, Total Deafness, Mental Defect, Epilepsy, Active Tuberculosis, Crippling, or Heart Disease			30
Blind	Suitable for training in a School for the totally blind.	At Certified Schools for the Blind	22
		At Public Elementary Schools	—
		At other Institutions	—
		At no School or Institution	—
Partially blind	Suitable for training in a School for the partially blind	At Certified Schools for the Blind	—
		At Certified Schools for the Partially Sighted	64
		At Public Elementary Schools	2
		At other Institutions	—
		At no School or Institution	1
Deaf	Suitable for training in a School for the totally deaf or deaf and dumb.	At Certified Schools for the Deaf	31
		At Public Elementary Schools	—
		At other Institutions	—
		At no School or Institution	—
Partially deaf.	Suitable for training in a School for the partially deaf.	At Certified Schools for the Deaf	—
		At Certified Schools for the Partially Deaf	12
		At Public Elementary Schools	1
		At other Institutions	—
		At no School or Institution	—
Mentally Defective	Feebleminded (cases not notifiable to the Local Control Authority).	At Certified Schools for Mentally Defective Children ..	224
		At Public Elementary Schools	—
		At other Institutions	—
		At no School or Institution	—
Epileptics	Suffering from severe epilepsy.	At Certified Schools for Epileptics	4
		At Public Elementary Schools	—
		At other Institutions	—
		At no School or Institution	2
Physically Defective	*A* (1). Pulmonary tuberculosis (including pleura and intra-thoracic glands)	At Certified Special Schools	59
		At Public Elementary Schools	278
		At other Institutions .. .., ..	—
		At no School or Institution	59
	A (2). Non-pulmonary tuberculosis	At Certified Special Schools	63
		At Public Elementary Schools	76
		At other Institutions	—
		At no School or Institution	43
	B.—Delicate children, *i.e.*, all children (except those included in other groups) whose general health renders it desirable that they should be specially selected for admission to an Open Air School.	At Certified Special Schools	168
		At Public Elementary Schools	172
		At other Institutions	1
		At no School in Institution	29
	C.—Crippled children (other than those with tuberculous disease) who are suffering from a degree of crippling sufficiently severe to interfere materially with a child's normal mode of life.	At Certified Special Schools	116
		At Public Elementary Schools	58
		At other Institutions	22
		At no School or Institution	6
	D.—Children with heart disease, *i.e.*, children whose defect is so severe as to necessitate the provision of educational facilities other than those of the public elementary school.	At Certified Special Schools	61
		At Public Elementary Schools	—
		At other Institutions	3
		At no School or Institution	6

Table IV.—Return of Defects treated during the Year ended 31st December, 1934.

Treatment Table

Group I.—Minor Ailments (excluding Uncleanliness, for which see Group VI).

Disease or Defect. (1)	Number of Defects treated, or under treatment during the year. Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
Skin—			
Ringworm Scalp			
X-ray Treatment	14	—	14
Other Treatment	13	—	13
Ringworm Body	101	1	102
Scabies	136	—	136
Impetigo	2,310	—	2,310
Other skin diease	670	7	677
Minor Eye Defects—			
(External and other, but excluding cases falling in Group II.)	1,310	11	1,321
Minor Ear Defects	1,055	5	1,060
Miscellaneous—			
(*e.g.*, minor injuries, bruises, sores, chilblains, etc.)	4,401	198	4,599
Total	10,010	222	10,232

Group II.—Defective Vision and Squint (excluding Minor Eye Defects treated as Minor Ailments—Group I).

Defect or Disease (1)	Number of defects dealt with. Under the Authority's Scheme. (2)	Otherwise. (3)	Total. (4)
Errors of Refraction (including Squint)	2,982	29	3,011
Other Defect or Disease of the Eyes (excluding those recorded in Group I.)	16	—	16
Total	2,998	29	3,027

Total number of children for whom spectacles were prescribed :—
(i) Under the Authority's Scheme 1,912
(ii) Otherwise 29

Total number of children who obtained or received spectacles :—
(i) Under the Authority's Scheme 696
(ii) Otherwise 1,230

Group III.—Treatment of Defects of Nose and Throat.

Number of Defects.

Received Operative Treatment												Received other forms of Treatment (4)	Total number treated. (5)
Under the Authority's Scheme, in Clinic or Hospital. (1)				By Private Practitioner or Hospital apart from the Authority's Scheme. (2)				Total (3)					
(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)	(i)	(ii)	(iii)	(iv)		
—	—	—	—	100	24	146	8	100	24	146	8	296	574

(i) Tonsils only. (ii) Adenoids only. (iii) Tonsils and adenoids. (iv) Other defects of the nose and throat.

Group IV.—Orthopaedic and Postural Defects.

	Under the Authority's Scheme. (1)			Otherwise (2)			
	Residential treatment with education (i)	Residential treatment without education (ii)	Non-residential treatment at an orthopaedic clinic (iii)	Residential treatment with education (i)	Residential treatment without education (ii)	Non-residential treatment at an orthopaedic clinic (iii)	Total number treated
Number of Children treated	66	2	504	—	—	—	572

Group V.—Dental Defects.

(1) Number of Children who were :—

(i) Inspected by the Dentist :

Routine Age Groups	Aged : 5	154	
	6	4,848	
	7	4,493	
	8	3,816	
	9	3,406	
	10	3,474	
	11	3,060	
	12	3,156	
	13	3,014	
	14	886	
		Total	30,307
Specials			1,459
		Grand Total	31,766

(ii) Found to require treatment 25,461

(iii) Actually treated 11,085

* (2) Half-days devoted to { Inspection 251 / Treatment 1,675 } Total 1,926

(3) Attendances made by children for treatment 21,211

(4) Fillings { Permanent teeth 5,710 / Temporary teeth 140 } Total 5,850

(5) Extractions { Permanent teeth 4,737 / Temporary teeth 19,280 } Total 24,017

(6) Administrations of general anaesthetics for extractions 6,798

(7) Other operations { Permanent teeth 2,461 / Temporary teeth 469 } Total 2,930

* In addition to this number, the Dentists devoted 241 sessions to the treatment of mothers and young children under the scheme of the Education Committee and the Maternity and Child Welfare Committee.

Group VI.—Uncleanliness and verminous conditions.

(i)	Average number of visits per School made during the year by the School Nurses ..	10
(ii)	Total number of examinations of children in the Schools by School Nurses ..	139,061
(iii)	Number of individual children found unclean	4,253
(iv)	Number of children cleansed under arrangements made by the Local Education Authority	—
	Number of cases in which legal proceedings were taken :—	
	(*a*) Under the Education Act, 1921	2
	(*b*) Under School Attendance By-laws	4